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TREATISE

ON THE
FORCE *and* ENERGY
OF

CRUDE MERCURY.

PROVING

The USEFULNESS and INNOCENCY
of its INTERNAL APPLICATION, by a great
Variety of EXPERIMENTS and HISTORIES
of CASES, Acute and Chronick.

By *THOMAS HARRIS*, Surgeon.

*Quod non sanat Medicamentum, Ferrum
Sanat, quod Ferrum non sanat, Ignis
Sanat, quod Ignis non sanat, Mercurius sanat,
Quod non sanat Mercurius, Insanabile est.*

L O N D O N :

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THE

OF THE

FOR



THOMAS

DO



To my much Honoured **UNCLE,**
Mr. ARCHDALL HARRIS,

Surgeon of His **MAJESTY'S**
First **REGIMENT** of Foot-Guards.

S I R,



N the Choice of a
Patron, it is usual to
fix upon one the most
eminent in that *Art* or *Science*
which the Author either means

E P I S T L E

to explain or improve. As there is none I could more properly chuse to answer in every Point the Character of a compleat Surgeon, who is not more distinguish'd for an excellent *Manual Operator*, than for a thorough Knowledge in the several Branches of the Medical Art, to whom can I more fitly apply?

The *Army* in general have long experienc'd your personal Worth and Abilities, for a *Series* of many Years, but more particularly that REGIMENT
whereof

D E D I C A T O R Y.

whereof you have been for so many Years the *Surgeon*.

In dedicating this Tract to you, I do no more than Gratitude obliges me; since I must ever acknowledge that under your Tuition I had my first Instructions, and by your generous Communication I have to this Time received fresh Supplies to furnish out my little Knowledge in the *Chyrurgick Art*.

I take the Liberty therefore you so kindly allow me, of sheltering this Essay under

E P I S T L E

your Protection, which was drawn up for my own Use, as an Improvement for those Hours secluded from Business.

I might mention some Particulars for which you have been more eminently distinguished than any of our Time, as well during the Reduction of *Ireland*, as throughout the long War in *Flanders*, for your admirable Method in the Cure of Gun-shot Wounds, &c. But fearing to offend you, I rather chuse to be thought singular, and forbear that Tribute due
to

D E D I C A T O R Y.

to you, preferable to all *Pro-*
fessors of the Healing Art.

I am,

S I R,

Your Obedient Nephew,

And Humble Servant,

THOMAS HARRIS.

Hackney, May 8.

1734.

D E D I C A T O R Y.

to your preferable to all Pro-
fessors of the Healing Art.

S I R,

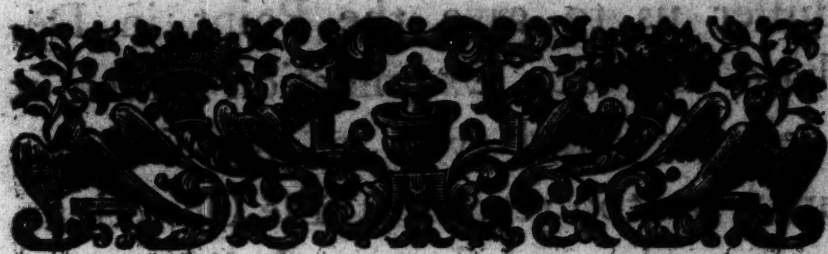
Your Obedient Nephew,

And Humble Servant,

THOMAS HARRIS.

London May 8.

1784.



PREFACE.



EW Discoveries are suspected, especially in the Medical Way. When a Medicine is discovered to be innocent, and, after repeated Trials, salutary too, which was before thought poysonous, it will gain yet Credit but by slow Degrees; for not only the Fear of its bad Effects, but a natural Unwillingness also to change
an

P R E F A C E.

an old Opinion for a new, will not suffer us to give the Point in Debate that due Examination which it deserves; and even in that Case we may be too ready to raise Objections, rather than desirous of discovering the Truth.

If likewise a Discovery is made by a Person to whom we have conceived an Antipathy, altho' *Facts*, and the *strongest Reasoning* in Support of those *Facts*, ought to engage our Assent to what he publishes; yet we being predetermined, are frequently resolved, right or wrong, to condemn.

Under these Difficulties, we venture to appear in Publick, in behalf of a Medicine much celebrated on the one hand, and defam'd on the other: Therefore, in this Essay, our
Inten-

P R E F A C E.

Intention is to write without Partiality ; to deliver faithfully the Observations we have made ; and from a rational Account of this Medicine, and the Effects thereby produced, to draw just and easy, not strain'd Conclusions.

If it should be alledged by the Favourers of *Crude Mercury*, that enough has been said to establish the Usefulness and Excellency of its internal Application, I must, once for all, advertise, that it was not barely the Accounts I had read, but likewise a great Number of Experiments I have made, that induced me to be an Advocate for it,

It may be urged indeed, that Matter of Fact wants not to be assisted with Arguments ; yet certainly

P R E F A C E.

tainly so Noble a Medicine deserves more than a few cursory Remarks; and its Method of Operating ought to be proved in a rational Manner, as well as its Success attested by Facts and practical Observations.

Perhaps those who explode the Use of its internal Application, may think that we have taken upon us a useless or idle Employment; or that we are enamour'd with the Success of a few Experiments, which will be related hereafter. In Answer to this, we do say, that Experiments, fairly made, must carry Conviction with them, tho' Millions of Scruples and Objections should be rais'd; for by these Experiments Facts will be explained, and the *Modus Operandi* of Crude Mercury as easily

P R E F A C E

easily accounted for, as of any the most known Medicine in the *Materia Medica*.

The supposed Novelty of the Subject, and the Opposition made to *Crude Mercury*, may possibly be thought a sufficient Reason for us not to have undertaken this Task; but we think differently, and would scorn, when an Opportunity offers, to forbear lending a Helping-hand in Support of a Publick Benefit, notwithstanding we are sensible, that Censure is the common Reward of such Undertakings.

Concurrent with mine has been the Opinion of my Friends, to whom this has been partly communicated, upon which I resolved to publish these Observations: Not that I affect

P R E F A C E.

fect *Novelty*, and would introduce new Systems in Physick; but that having been a diligent Observer of the Success of *old Forms*, and where these have manifestly fail'd, as it is my Duty, I recommend *That* which may have a more desirable Issue.

The Cases that illustrate this Work were all under my own Inspection, where I had sufficient Opportunity to watch and observe every Variation.

I have depended upon no Relations whatsoever from other Hands, tho' I might have had enough to have fill'd a Volume.

Whatsoever ill Symptoms arising from the Use of *Crude Mercury*, which some of the Opponents to it have dili-

P R E F A C E.

diligently enquir'd after and expos'd, have never interrupted me in those Cases where I have apply'd it; if any had been excited, the World should have had the *Bad* with the *Good*; and I would have been no less curious in remarking them, than in recording the happy Successes which the Reader will find in the following Sheets.



T H E

PREFACE

diligently copied & after and exposed
have not interrupted me in this
Catalogue I have supplied it with
any had been omitted, the world
should have had the best with the
land; and I would have been no
less certain in remaining them, that
in recording the happy success
which the Reader will find in the
following sheets.

*By Reason of the Carelessness of the Printer, we are obliged
to add the following Errata and Corrections.*

PREFACE, page 1. line 8. for gain yet, read yet gain. Introduction,
p. 2. l. 6. for systems, r symptoms. P. 5. l. 19. for extraordinary
r. extraordinary. P. 5. l. 13. for is, r. is, l. 16. for and enabled, r. and
be enabled. P. 8. line the last, for previous, r pervious. P. 9. l. 3.
for succeeding this, r. succeeding this. Part I. cap. 3. p. 18. l. 17. for
of these, r. by these. Cap. 4. p. 31. l. 9. for Quick-Silver, r. Quick-
Silver. Cap. 5. p. 36. l. 10. for proceed, r. proceeded. P. 37. l. 1. for
and this, r. but this. Cap. 6. p. 31. l. 17. for Attraction, r. Attraction.
Part II. cap. 1. p. 54. l. 7. for soms, r. some. L. 10. for adorant, r. odo-
rant. L. 11. for Ffluvia, r. Effluvia. P. 56. l. 3. for Scrum, r. Serum.
L. 21. leave out that are. Cap. 2. p. 60. l. 11. after anus, add, are
return'd by the Mouth; Cap. 3. p. 75. l. 10. for Phenomina, r. Pheno-
mena. P. 78. l. 3. and l. 12. for Scrum, r. Serum. P. 79. l. the last,
and p. 83. l. 15. for Scrum, r. Serum. L. 17. for Pain, r. Pains. Cap. 4.
p. 86 l. 3. for Bellini, Pores, r. Bellini Pores. Margin, for Secretion r.
Secretion. L. 15. for Scrum, r. Serum. P. 88. l. 1. for Secretion, r.
Secretion. P. 94. l. 19. leave out I must confels. P. 95. l. 23. for
Filements, r. Filaments. L. the last, for Bamus, r. Ramus. Cap. 4. p. 96.
l. 13. for noting, r. nothing. Conclusion, p. 105. l. 3. for in the Cancer, r.
The Cancer. Post-script, p. 113. l. 5. for Dozes, r. Doses.

INTRODUCTION.



THE
INTRODUCTION.



Elloste, the honest and ingenious
Author of the *Hospital Surgeon*,
has introduced his second Vo-
lume of that excellent Work,
by publishing the singular *Vir-
tues and Effects of Quick-Silver*, which he
styles, *The Miracle of Nature*, and the
greatest Gift of Providence in the whole

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Materia

INTRODUCTION.

Materia Medica, especially in the Cure of
Chronical Diseases.

In this Tribe of Diseases, we are to observe the Process and Length of Time, the gradual Increment of *old* and Rise of *new* Systems, by which they will sometimes assume the Shape of different Diseases, one Complaint being so complicated with another.

By their long Continuance the Habit is destroy'd, the Tone of the Fibres relax'd, their Elasticity or Springiness is deprav'd, the Blood, by a slow and unequal Circulation, grows viscid and ropy, its Consistence spoil'd.

Thus they become too obstinate, or too firmly fix'd to give Way to less powerful Remedies and Applications, whose Particles consist not of that peculiar and specifick *Form, Weight, and Fluidity*, so evident in
Crude

INTRODUCTION

Crude Mercury; that by their Dissimilarity to the *Globules* of the animal *Blood*, cannot so conveniently mingle and circulate therewith, to the End, that they may force away, or break through the Stops and Lets or Obstructions, the original Cause of most, if not all *Chronical* Diseases.

But this Fluid being introduc'd, whose Gravity is sufficient to break thro' all Obstructions, and whose *Form* and *Fluidity* are nearly similar with the *Blood*, by which it is capacitated to mix and unite with the sanguineous *Globules*, it will accelerate the Circulation, and restore Elasticity to the *Fibres* of the Solids; and without this be performed, the unavoidable Consequence is Stagnation and Putrefaction.

In Cases of this Nature, Recourse has always been made to the Class of *Detergents* or *Deobstruents* inserted in our Dispensatories;

INTRODUCTION.

penfatories; from the Tribe of *Herbs* accounted aperient and cleansing, we advance to the *Milk*, the *Flesh*, and the nauseous *Excrement* of Animals; and then we proceed to *Metals* and *Minerals*; and that which brings up the Rear is *Quick-Silver*.

The Class of *Herbs* have been long esteem'd *aperient* and *cleansing*; but truly the most I know of many of them, is, that they are merely *expectative*; and perhaps the greatest Good proceeding therefrom, has been principally owing to that universal *Menstruum*, or Dissolvent, *Fair-Water*.

“ And tho' Water is acknowledged to be
“ the most universal Dissolver of all Salts
“ of all Kinds, and would certainly dissolve
“ the Concretions in the larger Vessels, and
“ help to carry them out of the Habit;
“ yet it not having Activity nor Weight
“ enough

INTRODUCTION.

“ enough to penetrate the smaller Vessels,
“ where the Danger is most, and the Want
“ greatest, it cannot be alone sufficient
“ here.

“ Those Medicines, therefore, that are
“ of the most active Kind, and to whose
“ volatile Particles Weight is join'd, can
“ most readily pervade the Solids, and infi-
“ nueate into the inmost Recesses of the Ha-
“ bit :” And if *Rotundity* be added to
these Qualities, there can be no Fear of
Irritation and *Acrimony*, which would cer-
tainly arise from a different Structure of
their component Parts.

It is true, indeed, that the Preparations
of *Iron* and the *Chalybeate* Waters are very
efficacious ; but in what Manner are these
Effects produc'd ? Is it not owing to their
extraordinary Weight ? To this may be
added two other Properties (*viz.*) *Elasti-*
city and *Astringency*, both of which, as

INTRODUCTION.

they penetrate the Vessels, serve to corroborate their Fibres; the *one* introducing a second Motion equal to the first, which may be called *Re-action*; the *other* bracing up, restoring and confirming the natural Tone thereof.

This latter Quality, *i. e.* *Astringency*, is very obvious; for when the Particles of *Iron* are admitted into the Stomach, they will so corrugate and contract the muscular Fibres of it, as to turn *Emetick*, by which they are frequently ejected.

The Use of both these Properties then, is to restore the impair'd *Solidity* and *Springiness* of the Fibres, by which they may perform a forcible *Contraction*, and enabled to promote the *Secretions* with greater Force and Rapidity.

But as these come short of the specifick Gravity, the Form, and Fluidity of Crude Mercury

INTRODUCTION.

Mercury, as there is no Analogy of their Particles, they can bear no Comparison.

For the Particles of *Iron* or *Steel*, consist of sharp-pointed angular Forms, and naturally shoot into *Spicula*, or Chrystals, as will appear when we make the *Sal. Martis*; they are justly allowed a Place in this Class, because the Manner of their Action is rational, not vainly expectative, and can give Place to none but the *Mercurial Globules*.

Now as this Grand Remedy, (which an old Resident in the *Materia Medica*) is newly revived or practis'd, having been encounter'd with no little Opposition, whose Fate at this Time is too like that of the *Bark of Peru*, at its first Introduction, it cannot be amiss to remark those Experiments and Observations that produc'd in me Conviction, at a Time when I ran into the received Opinion, and endeavoured, by

INTRODUCTION.

various Methods, to raise some mighty Objections to this new Scheme: But repeated Trials affording nothing more than what was truly in Favour of it, I rested assured of the superior Excellence of this Drug to all others about which I have made any Observation, and confirm'd me, as far as Experiments can establish, of the Necessity of its Use in many Cases, *Acute* and *Chronick*, whereof Numbers have hitherto entirely evaded, or held out against the unwearied and united Efforts of all those Classes of Remedies appropriated for such Uses, and variously compounded.

“Mercury (says Dr. Cheyne) is the
“only Fluid in Nature (except Water)
“fit to circulate through hollow animal
“Tubes; two of the others, *Light* and
“*Aether*, can hardly be retain'd in them;
“its greater *Weight* than any other Kinds
“of Matter (except *Gold*) makes it the
“most capable to force its Way; but then
“Gold

INTRODUCTION.

“ *Gold*, and all other Minerals, having no
“ innate *Fluidity*, nor natural *Rotundity* of
“ Particles, must be always carried in Wa-
“ ter to be introduced into an animal
“ Habit, with which they never kindly
“ mix.”

And again; “ *Liquid Quick-Silver* will
“ do great Service in beginning Plicatures
“ of the *Intestines*, Obstructions of their
“ *Glands* and *Valves*; and in Foulnesses,
“ and in hard Concretions or Obstructions
“ bred in the Mouths of the *Lacteals*,
“ (which are often Cases where the Symp-
“ toms, common to other Diseases, will
“ not admit of a certain Distinction,) but
“ eminently so in *Asthmatick* Cases, above
“ all other Medicines. By its *Weight*
“ only, forcing open the obstructed Mouths
“ of the *Lacteals*, and its Steams thereby
“ entering the Habit, attenuate the viscid
“ Juices of the *Lungs*, and render them
“ previous, and so promote Expectoration;
“ and

INTRODUCTION.

“and I think (*says he*) other more appropriate and specifick Medicines, not succeeding this, ought to be tried in all Cases of the *Alimentary Tube*, since it is as innocent and safe as *Ass's Milk*.”

It is needless to spend farther Time in citing Authorities for that which, upon due Examination, carries its own Praise; therefore shall proceed to examine the several Objections to *Crude Mercury*, and explain the several Propositions stated in the following Chapters, containing the first or doctrinal Part of this Treatise; which are,

Part I.

CHAP. I.

Whether Crude Mercury, inwardly apply'd, will sublime, or give Rise to a Salivation.

CHAP.

INTRODUCTION.

CHAP. II.

That Mercury Crude ought be rightly distinguished, (from the various Preparations of it, especially Chymical,) as to its Effects and Causes; wherein will be considered the Nature of the Mercurial Particles unprepared; the true Difference between which, and the Chymical Preparations thereof, is stated, occasioned either by their Composition, or the Assistance of Fire.

CHAP. III.

That external Frictions of Mercury, raising a Ptyalism, can be no Argument

INTRODUCTION.

gument to prove, that Crude Mercury, inwardly apply'd, will effect the like.

CHAP. IV.

Whether Crude Mercury will mix and incorporate with the circulating Juices? Wherein will be impartially related the Success of several Experiments.

CHAP. V.

An Enquiry into the Nature of the Animal Fluids, that have received this Aptitude to mix and incorporate with the Mercurial Globules.

CHAP.

INTRODUCTION.

CHAP. VI.

*Some Properties of Crude Mercury
observ'd; together with the great
Uses of Cinnabar.*

And then, we propose to confirm this
this Doctrine, Secondly, by considering,

CHAP. I.

Part II.

*Crude Mercury, with regard to the
Manner of Operation.*

CHAP.

INTRODUCTION.

CHAP. II.

Its Uses, in the Cure of the Iliac Passion, and other Diseases of the Intestines.

CHAP. III.

Its Uses in the Cure of Rheumaticks.

CHAP. I.

CHAP. IV.

In the Gravel and Stone.

CHAP.

INTRODUCTION.

CHAP. V.

In the King's Evil.

And, in the Conclusion, to recommend
it in many other *Chronical Cases*.



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INTRODUCTION.

CHAP. V.

In the King's Evil.

And, in the Conclusion, to recommend
it in many other Chirurgical Cases.



A TRIA-

PARC



TREATISE

ON THE
FORCE and ENERGY

OF
CRUDE MERCURY.

PART I.

CHAP. I.

*Whether Crude Mercury inwardly apply'd
will sublime, or give Rise to a Salivation.*

THIS is the only Objection of any
Force that can be made to it; and
altho' the Affirmative, viz. that it
may salivate, cannot be entirely denied; yet

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the Force of it will be very much diminish'd, when we consider, first, that this Symptom most rarely is excited; for if we appeal to Practice, it is manifest that among the great Numbers who have, and do frequently use it, and in large Quantities, for a long Continuance, this Accident has hardly ever intervened: Secondly, if we remark those Cases which it has attended, it will be found to have been only a gentle moderate Spitting for a few Days, without those tormenting Symptoms flowing from an intended Salivation.

Again, if we consider with how great Difficulty Mercury is at all sublimed, it is scarce possible to imagine, that a Sublimation should be performed by the single Effect of the gentle Heat of the Body only, that is with so much Difficulty to be procured by the greatest Degrees of Heat applied in all the chymical Experiments of that Nature. We acknowledge that a Discharge by the salivary Glands may be excited, which Experience testifies is extremely moderate, and of short Duration, perhaps of two or three Days.

But

But let this Objection stand in the full Force the Authors of it design; of whom I would ask this Question, Will not a *Dropsical*, a *Gouty*, nor *Asthmatic* Patient submit even to a Salivation in the strongest Sense, provided they may have a Probability of a Cure by this Method? The Affirmative will be granted; Numbers have submitted, and I wish I could say one fourth Part have reap'd Success.

Is it not our daily Practice to enjoin our *Leprous*, our *Venerneal*, and *Scrophulous* Patients to undergo all that horrid Train of Symptoms? And how often have our Hopes been disappointed, when that severe Operation has been again and again repeated!

“ And should the Flux be carried to such
 “ a Degree, as is requisite to exterminate the
 “ Disease, the unhappy Patient is then in the
 “ utmost Peril of sinking under it.”

I have administer'd it with the most happy Success, when the usual Applications have been attended with so little Hopes of Amendment, as not only to tire out the unfortunate Patient, but even his Attendants; who by

Of the Force and Energy of

successless Remedies has languished not only Days, but Weeks, and Months, with lingering tho' *acute* Pains; the Stomach nauseated with vain Repetitions of Medicines without Number, 'till he has passed on thro' the whole Circle of *Attenuants*, *Deobstruents*, *Sudorificks*, *Cathartics*, Blisters, and what not? 'till at last he has received this poor Comfort, this only Hope, that as *Art* cannot prevail, so it must be left to *Nature* to work out a Deliverance for him; and if he comes off with Life 'tis well, notwithstanding he has just Cause to fear, if he recovers by slow Degrees, that the next *Cold* he takes, the next *Irregularity* he is guilty of, will subject him to a Return or Relapse of the same unmerciful Indisposition, and then he knows his Doom, all to go through again, the same Course to pursue, and with as little Expectation of Relief.

Wherefore it is surprizing, that in those Diseases, where our Ends and Designs are so manifestly eluded; that we do still so rigidly contend for the *old* Forms under such evident Disadvantages, which to me appear unsurmountable, and will not give into the Use

Use of a Remedy for *innocent*, and attended with assured *Success*.

When the Reputation of the memorable Cures performed by *Crude Mercury* came into publick Discourse, I resolved to set about some Experiments with it, in order to ascertain myself, and a few Friends, of its *Innocency*, or poisonous Qualities upon *Brutes*, according to the usual Custom, to be inform'd of the Effects and Properties of Things which heretofore we knew little of.

I procured some Dogs, which I shut up Exper. I. in a clean Place, and gave to each an Ounce of *Crude Mercury*, and repeated the Quantity every Day, for six Days, without any visible Effect, setting aside more frequent Dejections of the Excrements together with the Mercury, sometimes in two Hours, sometimes in four Hours, and sometimes in six or eight, after it had been poured down, which I found to differ only according to the Quantity of the Food taken occasionally, as when the Bowels were emptiest, the sooner; and when replete, the later the Dejection. They had still the same Appetite to eat and drink, without any other Alteration what-

Of the Force and Energy of

fever; than what is above related. I kept the Dogs a Week longer, and then dismiss'd them, as safe and sound as before, and, I dare say, in as good Condition as ever.

While I was amusing myself with these, and other Experiments, some Patients offered, as willing to be cured by that Remedy as by another, which I refer the Reader to consult, being digested, under the several Diseases hereafter specify'd under the second Head, or curative Part of this Discourse; only I shall observe, that not the least Evacuation was excited by the salivary Vessels, no ill Symptoms of its *poisonous* and deleterious Qualities.



CRUDE MERCURY.



CHAP. II.

That Mercury Crude ought to be rightly distinguished (from the various Preparations of it, especially Chymical) as to its Effects and Causes; wherein will be consider'd the Nature of the Mercurial Particles unprepared; the true Difference between which and the Chymical Preparations thereof is stated, occasioned either by their Composition; or the Assistance of Fire.

THE Contents of this Chapter proceed from an Objection founded by those who very erroneously confound the Mercurial Particles, when Crude, with the various Preparations, when harrass'd and torn to Pieces by the Salts they are compounded with, and by the Interposition of Fire; and thence conclude, that Crude Mercury is a violent Caustic, that may not only destroy the Texture of the Juices, the fibrous Parts of the Blood, but that

Of the Force and Energy of

may also disunite and tear asunder the whole *Compages* of the Solids.

This Objection, that bears so formidable an Aspect, will be easily solv'd, by considering the *Form* and *Figure* of the Mercurial Particles; from whence, Reason will teach us, arises the different *Modus* of Operation.

And this we shall do, by comparing the Particles of the *Crude* with those that are *compounded* of other Bodies: And here it will be necessary to premise, that as *Lewenhoeck* observ'd the *Blood* to consist of *globular* Particles, so likewise does *Mercury*; for upon the Touch it evidently divides into a great Number of *Spheres*, of different *Magnitudes*.

Exper II. If *Mercury* be rubb'd in a Mortar with *Vinegar*, the Parts will appear extremely divided, insomuch as they will be render'd imperceptibly small; and one Drop may probably contain a Million of Globules.

Among the *Chymical* Preparations, that which in the Shops is called *Callomel*, is by far the mildest; which is made by a
Compo-

CRUDE MERCURY.

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Composition of *Corrosive Sublimate* four Ounces, *Quicksilver* three Ounces, rubb'd together in a Glass Mortar till the Globules disappear; put all into a Bolt Head, plac'd in a Sand Heat for three Hours, and again for three Hours longer; when it is cold, break the Glass, and separate the *Sublimate*; powder it again, repeat the Sublimation after the same Manner to the third Time, and it becomes *Mercurius Sublimatus Dulcis*; and if it be farther repeated to the sixth time, it is called *Calomel*.

Now let us look back to consider the Composition of *Corrosive Sublimate*, a principal Ingredient in this Medicine, which is made of calcin'd *Vitriol*, common *Salt*, purified *Nitre*, and *Crude Mercury*, rubb'd together, and put into a Matrafs, plac'd in a Sand Heat, the Fire to be increas'd to the highest Degree for twelve or sixteen Hours, and the *Mercury* will be sublim'd.

From hence, from such Preparations as these, the Figure of the Mercurial Particles is quite altered, from a round, smooth,
and

Of the Force and Energy of

and perfectly *polite* Surface, it becomes rough; pointed, and angular; charg'd and loaded with the *Salts* extracted from the other Ingredients in this tedious Process.

From all which, it cannot but be obvious to every one, what a Change and Alteration there is necessarily produc'd, when it is mix'd and blended with Bodies that tear asunder, and destroy the pristine Appearance of its Particles, and afterwards when it is tortur'd, and torrefied with repeated Fires to the highest Degree, for several Hours, and that again repeated to the sixth Time before it be render'd mild enough. And then it must be very cautiously used, lest it produces a *Salivation*: And, if I may be allowed the Expression, the *Mercury* is spoiled, by incorporating it with such *caustic* Bodies, whose *Spiculae* are rivetted in, and dart out from every Side of its Surface; and yet even this is the mildest *Chymical* Preparation of it.

Now to understand, distinctly, how a Simple, as *Crude Mercury*, of singular *Innocence* and *Efficacy*, is converted into a *Poison* in the

the *Corrosive Sublimate*, it is requisite to observe and attend the several Steps and Gradations of that Process.

In this Composition the Mercurial Globuli are, as it were, stuck full of sharp Salts from the *Aqua Fortis*, or, which is the same Thing, from the *Vitriol*, the *Salt*, and the *Nitre*; that each Particle may properly enough be said to resemble a Ball stuck round with sharp Needles.

The first manifest *Alteration*, or new *Quality* produc'd, is in that most necessary one, the *Fluidity* of Mercury; for their rolling about in such an acid *Menstruum*, until they become full of those saline *Spiculae*, changes their smooth into a very unequal Surface; whereby they can no longer slide over one another, but become permanent and fixed.

And moreover, the fiery Particles, the acid Salts, and continual *Agitation*, tear to Pieces, and infinitely divide the Globules; as is manifest by their assuming a new Form, and differing in *Specific Gravity*.

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Of the Force and Energy of

In this, therefore, (*viz.*) the Alteration of their *spherical Form* and *Fluidity*, seem to concur, to change those Things into mischievous Consequences, which separately and originally had none.

The *Salts* being driven into the *Mercurial Globules*, gives them *Points* which they had not before; and the *Mercurial Globules* add to the *saline Particles* a *Gravity* which they had not without them.

Crude Mercury, by its Weight, being in Circulation with the Juices, will strike hard upon whatsoever it meets with, that obstructs the Passage; but for Want of *Angles* or *Points*, cannot vellicate the Parts; and the *saline Particles*, tho' they have *Points*, having not Force nor *Weight* enough to drive them into the *Membranes*, cannot do much Harm, or excite much Pain. But when by this Process they are join'd together, the *Weight* of the *Mercury* drives in the *saline Spicula* like *Wedges*, and capacitates them to cut and tear to Pieces whatever falls in their Way.

The

The Consequences of this Poison also manifest something like this to be the *Texture* of its Parts; because it occasions violent *Gripings*, *Distention* of the Belly, a slimy *Froth* by Vomit, *Bloody Stools*, and an intolerable *Heat* and *Thirst*, with *Cold Sweats*, *Tremblings*, and *Convulsions*; which Symptoms demonstrate uncommon *Twitchings* and *Vellications* of the fibrous and membranous Parts.

And thus these *Chrystals*, or arm'd Balls, as so many Knives and Daggers, stab and wound the tender nervous Coats of the Intestines, and of all the Vessels they pass through; whereby they scrape off and carry away that natural *Mucus* which would defend them against less powerful Instruments, tear off the Extremities of the Vessels, and draw Blood itself; and if they arrive so far as the *Capillaries* in the ordinary Circulation, they must of Necessity stick there; whereupon *Tumefaction* and *Inflammation* arises by this *Corrosion* of their sensible Membranes, the Blood stagnates, the Parts farther inflame, until all terminates in a *Gangrene*. And altho' these Instruments
are

are singly small, yet being many in Number, make up one continued and incurable *Mortification*.

I would not be so unfair a Reasoner to build upon this only Foundation, and then conclude, that all the *Chymical* Preparations of *Mercury* contain in them the same Degree of Virulence: No, for, by a *Resublimation*, 'tis manifest, as in the *Calomel*, they lose, in great measure, these corrosive Qualities; but even in this, it only differs as *plus* and *minus*; they are only mitigated, not entirely disengaged, and in the mildest Medicine of this Sort (as I have instanc'd) far from being destroyed; notwithstanding, as was before observed, there be an Addition of *Crude Mercury*, as three Parts to four of the *Corrosive Sublimate*, " and a gentle Fire be given for
 " three Hours, increas'd for three Hours
 " more, and then very strong for as much
 " longer, and afterwards the Glass be broken,
 " the *Sublimate* separated, powder'd
 " again, and the Sublimation repeated after
 " the same Manner to the third Time,
 " and

“and again repeated to the sixth Time,
“it is called *Callomel*” *.

Wherefore, if we can introduce a much greater Quantity of the *Mercury* alone, upon which the whole Stress of this Medicine depends, with all Safety, that is, without giving Rise to those at best troublesome Symptoms, as it must be confessedly less *deleterious*, so with greater Expectation *useful*.

The Difference then between the one and the other will be, that whereas the *Globules* of the Quicksilver will glide through the Vessels, together with the Blood, with all Facility, by its *Weight* it will find a Passage through all Obstructions, no *capillary* Vessel being too small to admit its minuter *Globules*; while the former, by its *Spiculae*, will cleave to the Coats of the Vessels it should pass thro', will vellitate and excoriate them, and introduce all the Symptoms consequent to a *Salivation*; and lastly, if not managed with great Care

* See *Allen's Dispensary*.

and

and Circumspection, is, after all these, still capable of doing much more Mischief.

And herein lies the Absurdity of their Reasoning, who fear a *Sublimation* if given in the *Gross*, and at the same Time incautiously apply that which is already sublim'd, and loaded with the saline *Spiculae* it is incorporated with, and gathers up in its Preparation; that being used in ever so small Quantity, has yet a certain Tendency to salivate.

But besides, which has been before hinted, *Crude Mercury* is a *Fluid* consisting of Parts infinitely divisible, therefore capable of permeating and removing whatever obstructs the most narrow Passages.

And, from what has been observed, there is a *Similarity* between this and the animal Blood, (*vis.*) that they are both *Globular*; and from the specific *Gravity* of *Mercury*, this Inference is easily drawn, that instead of centring and remaining in the Body (as has been most ignorantly asserted in a late Case of a Mortification)

it

it ever has a Tendency downward, to be evacuated by the common Passages. And when it has enter'd the Circulation, will necessarily protrude those *Fæculencies* accumulated either in the Glands or capillary Arteries, by their excretory Ducts.

And now, I think, there is no Necessity for enlarging farther upon this Head, to prove, "That Mercury Crude admits of
" a just Distinction (from the various Pre-
" parations of it, especially Chymical) as
" to its Effects and Causes, having defined
" the true Nature of the Mercurial Particles
" unprepared, and stated the intrinsic Dif-
" ference between these and the Chymical
" Preparations thereof, as occasioned either
" by their Composition, or the Assistance
" of Fire."





C H A P. III.

That external Frictions of Mercury raising a Ptyalism, can be no Argument to prove that Crude Mercury, inwardly apply'd, will do the like.

THIS is the Substance of another Objection, which, for the Reader's Satisfaction, I will set in the clearest Light, (*viz.*) That as Mercury externally apply'd (as by Uction or Fumigation) gives Origin to the severest Salivation, and its attendant Consequences; it is to be feared, if internally applied, it will be attended with more violent Symptoms, and greater Danger.

This Objection is now stated in the full Force that the Sense of it can imply. We will first clear the Way a little, by considering the Method of Operation of these *Frictions* and *Fumigations* of Mercury. In order

order to it, I shall make this Quotation from the learned *Belloste*.

“ When Mercury enters the Body by
“ Frictions and Fumigations, it mixes
“ with the Lymph, but then it penetrates
“ also into the Veins and Arteries.

“ Such a Collection of globular Corpuf-
“ cles striking hard against the arterial
“ Blood, with a Direction contrary to the
“ Course of it, acts upon it in the same
“ Manner as a Damm or Bank. If the
“ Blood and Spirits yield to such a Shock,
“ their Motion must of Necessity be much
“ weaken'd, and even suppress'd, as far as
“ the Friction extends; so that they will
“ inevitably stand still, or move backwards:
“ This Conflict can be of no Service to
“ the Patient, but must produce such Symp-
“ toms as always attend an impeded Cir-
“ culation: I have beheld too many of
“ these sad Cases. If it enters the Pores
“ of the small nervous Fibres which ter-
“ minate at the Skin, it will, by its Vola-
“ tility *and specific Weight*, penetrate into
“ the Trunks of the Nerves, and oppose
C 2 “ the

Of the Force and Energy of

“ the Course of the animal Spirits, thereby
 “ occasioning a Palsy.

“ Mercury, when sent into the Body by
 “ Friction, gives to Part of the Liquors a
 “ different Turn to what they had before,
 “ as I have already remark’d: This Stroke
 “ of Retrogradation, which acts from the
 “ Circumference toward the Centre, subtilizes the Lymph, elevates it upward,
 “ gives it a violent and rapid Motion, and
 “ determines it toward the Head and
 “ Throat, which becomes swoln by such
 “ an Amassment of Lymph pour’d in upon
 “ them from all Parts of the Body; and
 “ it being too much to be contained in
 “ the Cavities of the Vessels, the Orifices of
 “ the salivary Vessels are, by the Effort of
 “ an irresistible Tension, opened, and dilated, to yield a Passage to this Abundance
 “ of the Lymphatic Humour.

“ But the Mercury having not circulated
 “ according to the natural Course of the
 “ Lymph, having only been elevated together with it, it is impossible that it
 “ should, by any rolling Motion, break or
 “ destroy

“ destroy the Points of the Acids; which
“ passing by the Throat and Mouth in an
“ unaltered Condition, do there occasion
“ very painful Ulcers and Lacerations.

“ The only Motion which the Lymph
“ and Mercury have on this Occasion, is
“ a simple Sublimation upwards, which
“ stops there; so that should the salivary
“ Canals be obstinately occluded, the Pa-
“ tient must be suffocated. It appears then,
“ that in such a Conjunction, the Mercury
“ and Lymph are in a State of Rest; that
“ the subsequent Evacuation, and the running
“ off of the Lymph and Mercury, makes
“ no Alteration in the Order of their Si-
“ tuation; the Action, tho’ violent, termi-
“ nates at the Throat. If Mercury de-
“ stroys the Points of the Acids, it must
“ roll along, and circulate peaceably with
“ them, by a continued and reiterated Mo-
“ tion, which cannot be brought about by
“ Frictions and Fumigations, nor by any
“ Preparation of Mercury, be it what it
“ will. When the *Crisis* after Frictions is
“ determined by Stool or Urine, the Mer-
“ cury would make fine Work if join’d

Of the Force and Energy of

“ with Acids ; Ulcers of the *Anus*, *Bladder*,
 “ and *Urethra*, would be the inevitable
 “ Consequences of such an Union, which
 “ however do never happen.

“ If Crude Mercury were capable of
 “ uniting with Acids, bad Symptoms would
 “ appear after Frictions, by which so large
 “ a Quantity is made to enter the Body.
 “ Those to whom I have given it by the
 “ Mouth, for above six Months toge-
 “ ther, as in scrophulous Cases, where
 “ Acids abound in an extraordinary Man-
 “ ner, would, if such an Union were pos-
 “ sible, have undoubtedly been sensible of
 “ some Irritation, Heat, or Excoriation ;
 “ and yet I never heard them complain
 “ of any such Things.” And then he goes
 on, and says : “ If what has been said above
 “ be consider’d with a little Attention, it
 “ will appear that Mercury ought to be
 “ taken at the Mouth, just as Providence
 “ has given it us, if we would feel the
 “ Benefit of it.”

And again : “ That all extravagant Ef-
 “ fects of it, in Frictions and Fumigations,
 “ are

"are produced no otherwise than by an
"unnatural Motion which it gives to the
"Spirits and Liquors, as I have already
"explained" *.

These several Quotations I chose to deliver together, because I would not spoil the Connection of the Author's Reasoning; and tho' this Matter can hardly be set in a clearer Light than the judicious Author has done for us in so easy an Explication, yet we will proceed a little farther, upon those Hints he has given us, in the most summary Way we can.

We shall first observe, that the Mercury is to be prepared for Friction, in Consequence of which it is incorporated with other Bodies till the Globules disappear, and its Fluidity is destroyed; and it naturally follows, that its Parts are very much broken and divided.

Again, we may observe, that it is incorporated for this Use with an hot, pene-

* See *Hospital Surgeon*, Vol. II. p. 52, 53, 59, 66, 61, 64, and 65.

trating, and inflammable Body (as Turpentine;) and what may be inferr'd from hence, is pretty easy to be seen, by the foregoing Reasoning: From whence this Inference is drawn, that the unnatural Motion in all the *Fluids* is owing to the Composition, and to the Method by which it is introduced; and whence proceeds that retrograde Motion, which may be truly stiled *contra Naturam*.

These Things being thus applied to the foregoing, make it incontestable, that the Cause, or Origin of those Symptoms, is not owing to the Mercury primarily, but to the Method of Application.

And this Way of introducing the Mercurial Particles is attended with the same subsequent Effects, as if we were to catch Cold after having pursued a Course of Mercurial Preparations; for the Consequences are pretty nearly alike, the salivary Glands tumefy and inflame, and an Evacuation of the *Saliva*, together with the *Mercury*, immediately succeeds; notwithstanding, if the Mercury had not been outwardly

outwardly applied, and this accidental Cold had not interrupted the internal Course of the Mercurial Preparations, a much larger Quantity might have been taken, and no such Symptoms would have appeared: Now the Cold introducing into the Habit some heterogeneous Particles, or occluding the perspirable Pores, produces at last the same Consequence (*viz.*) an Alteration in the Circulation, either by an unequal Motion of the Fluids, stagnating in the minuter *Rami-fications*, and flowing with greater Rapidity and Violence in the larger *Trunks*; or an Alteration in the Quality of the Fluids themselves, by a Comminution of the Globules into smaller, whereby the Blood becomes *acrid*; by an Incorporation of these into a closer Contact with others, by which means they are larger and grow *viscid*: either of these Ways the Consistence is spoiled; whence this will follow, that the Mercury, by its Volatility and Weight, still presses forward till it arrives at the Capillaries, more especially seated in the Glands, where the Blood has first stagnated; and these being stuff'd with the sanguinary Matter,

ter, the Course of the Mercurial Particles is obstructed, a sharp Conflict arises, and, agreeable to that well-known Philosophical Axiom, *That Body which is at rest will always continue to be so*, till some other arrives of greater *Momentum* and *Gravity* to displace it.

Now from this *Conflict*, the *Body at Rest* struck upon by the *Body in Motion*, the Vessels themselves are not exempted, Inflammation and Tumour arises.

But to come nearer to the Point, and to end this Comparison, the Case will be little different, if we consider it with regard to Mercurial Frictions: For the Mercury being imbibed by the Pores, insinuates into the Blood Vessels, where the Resistance of the circulating Fluid, and the Power of the Mercury, is so great, that the one or the other will be impeded in its Course; and be the Resistance ever so small in the larger *Trunks*, the smaller *Vessels* will inevitably suffer; for their Contents being press'd forward in a continual Course and
reite-

reiterated Agitation, that which is behind must needs succeed; so that the Contents of these minute Ramifications will be wedg'd in or damm'd up by the Resistance on each Side.

It will farther appear, by this other Philosophical Axiom, *When a Body, specifically heavier than a Liquid, is thrown up in it, it is retarded upon a double Account, on Account of the Gravity of the Body, and on Account of the Resistance of the Liquid.*

And the Mercurial Particles being specifically heavier, urged on by their Gravity, their greater Momentum, and Elasticity, will by repeated Percussions at last prevail; and thus the Course of the Blood becomes *Retrograde*.

On the contrary, to apply what has been said, when *Crude Mercury* is inwardly apply'd, it circulates peaceably with the Blood, pursues the same Course, without any Contest, Cessation, or Confusion of Motion, and therefore void of all Disturbance.

It

Of the Force and Energy of

It gives *Momentum* to the Blood, and all the Fluids; it perforates all Obstructions, promotes the Secretions, preserves a regular, constant, and uniform Motion; and being of a smooth, polite Surface, and of a globular Form, excites no Pain.



CHAP.



CHAP. IV.

Whether Crude Mercury will mix and incorporate with the circulating Juices; wherein will be impartially related the Success of several Experiments?

Without any other Introduction to this Chapter, we will relate the Experiments, which is the surest Foundation to build upon to establish what has been said in the preceding Chapter, and a proper Preface to the Enquiry into the Nature of the Animal Fluids, &c. the Subject of the succeeding Chapter.

It is very plain, that the Proposition of our present Discourse, introduced by Way of Question, is the Substance of another Objection (*viz.*) that it will not mingle and incorporate with the Blood.

Two Drams of *Quick-Silver*, with half
a Dram of human *Saliva*, being rubb'd
together

Exper.
III.

Of the Force and Energy of

together in a Mortar instantly incorporated, that is, the Face of the *Quick-Silver* was quite destroyed.

Exper. IV. Two Drams of *Quick-Silver*, with one Dram of *Cow's Milk*, incorporated.

Exper. V. Two Drams of *Quick-Silver*, with one Dram of *Ox's Gall*, incorporated.

Exper. VI. Two Drams of *Quick-Silver*, with one Dram of *Urine*, incorporated.

Exper. VII. Two Drams of *Quick-Silver*, with one Dram of *Blood*, incorporated.

It will likewise mix and incorporate with the *Aliments* received into the Stomach,

Exper. VIII. I poured into the Stomach of a Dog, newly killed and warm, one Ounce of *Quick-Silver*, which I laid in warm Water of the same Degree of Heat as the Blood; I gave it a gentle Motion, as near as could be to imitate the *peristaltic* Motion of the Intestines, for about twenty Minutes; I opened the Stomach, and discovered the *Contents* all

all over tinged with a dark *Lead-Colour*, and the Face of the *Quick-Silver* almost all destroyed; and I have Reason to conclude, that the *Aliments* would have imbibed all the *Quick-Silver*, had I continued that gentle Motion a little longer.

I scraped off some of the *Mucus* that lines the inner Coats of the Stomach and Intestines, which imbibed *Quick-Silver*, that is separated by the small Glands seated in all the Guts, whose Office is to secrete that visciduous Liquor, to lubricate them for the more easy Exclusion of the Excrement, and to blunt or sheath the acrimonious Particles admitted together with our Food, to smooth and soften the biliary Juice emptied into the *Duodenum*, that they may not irritate and corrode those exquisitely sensible Membranes,

Exper.
IX.

And if we were able to separate any of that *Fluid* secreted by the *Pancreas*, it would as easily dissolve the Mercurial Mass, as the *Saliva*, or either of the *Menstrua* above recited, by Reason of the Analogy of their Particles.

In

In all these Experiments, the *Blood*, preferably to all the different *Menstrua*, soonest imbibed the *Quick-Silver*; the *Saliva* next; then the *Milk*; the *Gastric Liquor*; the *Ox's Gall*; and, last of all, the *Urine*; the farther Examination whereof may be worthy the Regard of the Curious; but, lest I anticipate what is to be explained under another Head, shall at present, for the avoiding Repetition, forbear.

It is demonstrable therefore, that *Quick-Silver* is of the same *homogeneous* Nature with the *Blood* and all the *Juices*, there being not one animal Fluid, that I know of, but what will easily imbibe it, with little or no Force.

It was Matter of Surprize and Wonder to me, to see these Mixtures so soon effected, the Attrition being the least Cause; for I am certain, were they only to be shook about in a Glass Vial, the Incorporation would be as soon compleated.





CHAP. V.

An Enquiry into the Nature of the Animal Fluids, that have received this Aptitude to mix and incorporate with the Mercurial Globules.

WE shall, *First*, consider what is meant by a *Fluid*: Which will lead us, *Secondly*, To know the *Texture* of its Parts.

“A Body whose Parts yield to any Impression, and by yielding are easily moved, in respect to each other, is called a *Fluid*.”

Definition.

This depends altogether upon the *Cohesion* of Parts; the closer a Body is, the nearer it approaches to perfect *Hardness*; as, on the contrary, the more slender its *Cohesion* is, the nearer it approaches to *Fluidity*.

D

But

But it is a particular Law of *Cohesion*, that all the Parts have an attractive Force.

Defini-
tion.

“ By the Word *Attraction*, I understand any Force by which two Bodies tend toward each other, tho’ perhaps it may happen by Impulse.”

By the Help of this Law, several Phænomena are very easily explained; and that *Attraction* is fully proved by a vast Number of Chymical Experiments.

That there is such a Thing, appears from the following.

Exper.
X.

We see that in all Liquors all the Parts attract one another, from the *spherical* Form that the Drops have; and also, because there is no Liquor whose Parts are not sticking to one another; which is evidently true even in *Mercury* itself.

Exper.
XI.

But this mutual Attraction of Particles is much better proved; because in all Liquids, if two Drops be placed near together, and touch one another ever so slightly,

slightly; they will immediately run into one larger Drop.

All which Things, as they happen in dissolved Metals, it follows, that the Parts of which they are compounded do attract each other, notwithstanding they are disjointed by the Motion of the Fire.

Now having proved in general, what is meant by a Fluid, and the Nature of Attraction and Cohesion, it is easily conceived, that Fluidity consists in a spherical Kind of Particles; for Fluids preserve a Surface free from any Inequality or Angles, and in every Expansion or Compression, the Parts are easily moved one amongst another; which cannot happen in Bodies whose Parts are not spherical.

But yet there is something farther required to ascertain that Property in the animal Fluids, which is here expressly to be treated of, after these Praecognita of Fluids in general, that disposes them to readily to embrace and receive the Mercurial Globules.

And this, I am apt to believe, we shall find to be inherent in the *animal* or *volatile* Salt, with which those *Juices* do more or less abound: For *Crude Mercury* is not dispos'd to mix with any Composition wherewith I could pretend to imitate either the *Weight* or the *Fluidity* of the *Saliva*: As

Exper.
XIII.

Salt and Water, nor Vinegar added thereto, had any Effect: From whence I proceed to

Exper.
XIV.

Acids; Vinegar alone produc'd nothing.

Exper.
XV.

Oil of Vitriol separated the Mercury into imperceptible small Globules, but would not, by all the Attrition I could use, destroy the Face of them; which put me upon the Enquiry, What *Quality* there could be resident in the animal Fluids capable of producing such an Effect.

But, reflecting upon the Experiments in the foregoing Chapter, Reason inculcated that the Property resided in the *animal* or *volatile* Salt; and hence concluded, that the *vegetable* Salt was entirely incapable of afford-
ing

ing such an Issue; and this not satisfying me, I resolved upon other Experiments to put it on the Proof; and because they settled me in this Opinion, shall here relate them.

Volatile Sal. Armoniac, with *Crude Mercury*, rubb'd in a Mortar, incorporated: Exper. XVI.

And so did *Salt of Harshorn*, but with the Addition of the *Spirit of Sal. Armoniac* (that produced a fine blue Tincture) much more easily; and the Reason is plain, a *Fluid* being added, whose Texture is loose, and that does not so strongly cohere. Exper. XVII.

For the farther Illustration of this Point, the Reader may consult the Experiments in the fourth Chapter; where it is demonstrated, that no one animal Fluid refuses to engage, and intimately to mix, with the Mercurial Globules.





C H A P. VI.

Some Properties of Crude Mercury observed; together with the great Uses of Cinnabar.

THAT *Crude Mercury* is a *Fluid*, appears from what has been said; because it possesses all the Qualities necessary to denominate it such; as its loose *Texture*, *Rotundity* of Parts, &c. and that these, assisted by its *Gravity*, makes it so prevalent where it is applied, is easily deducible.

Quick-Silver unites itself to *Tin* and *Gold*, as *Water* and *Oil* sticks to *Wood* and clean *Glass*; and also we have Instances of *Repulsion* between *Mercury* and *Iron*, as well as between *Water* and all *unctuous* Bodies; but the *Causes* of this *Attraction* and *Repulsion*, we are unacquainted with, unless

unless we may be suffered thus to explain it.

That the Pores of the *Gold*, or *other Bodies* to which *Quick-Silver* coheres, consist of a particular *Form*, adapted to imbibe the flowing *Mercury*. And

Again, That the Parts of the *Mercury* being infinitely divisible, in a more especial Manner as it is a *Fluid* consisting of *globular* Parts; we may suppose then, that the recipient *Pores* are pretty nearly of the same *Form*, and therefore do most readily embrace them, in a Contact so close, as is not to be disengaged by all the Art we can use, without the Assistance of *Fire*, which only can destroy that *Cohesion*.

And this may be worth observing, that it generally cleaves to such Bodies that come nearest to it in *specifick Gravity*; as *Gold*, *Lead*, *Silver*, *Pewter*, *Tin*, &c. and the remarkable Combination of these Bodies with *Quick-Silver* may some Time or other be solved by this *Principle*, their *specifick Gravity*.

Of the Force and Energy of

As *Water* is the great *Menstruum*, and *universal Dissolvent* of all *Salts* of all *Kinds*, the *Solution* of which cannot be performed without the most intimate *Conjunction* of these *Bodies*, the *Effect* whereof is no other than the infinite *Division* of the saline *Particles*; so *Mercury* enters the *Pores* of *Gold*, which becomes so brittle as to fall in *Pieces* with the least *Force*, and the cohesive *Faculty* that unites and fetters together the *Parts* of the *Gold* by the *Mercury*, is disjointed and destroyed; as it happens in *Lumps* and *Grains* of *Salt* by the easy *Reception* of *Water* into their *Interstices*.

And both at length are reducible by *Fire*, by which alone the *Exhalation* of the *Aqueous* and *Mercurial* *Parts* is perform'd, and thus they are capacitated to reassume their first *Form*.

The *Causes* of *Repulsion* are, that the *Form* of the *Particles* is not suited to the *Pores*, and *vice versa*, and therefore *Quick-Silver* cannot unite itself to *Iron*, &c. and that *Water* and unctuous *Bodies* repel each other, when *Oil*, notwithstanding these latter
are

are much incrassated by Exhalation, do mutually attract each other.

Crude Mercury is for the most Part extracted by a Revivification of a Mineral Earth, called *Cinnabar*; and because it may retain something of the Foulness and Impurity of its natural *Matrix*, the Place of its Formation and Original, either by Reason of the earthy Recrements, or by the Sophistication of those who deal in it; the Choice of it therefore is much to be regarded.

But there are, nevertheless, some good Methods of depurating and refining it; to separate the *Bismuthum* and the *Lead*, by which the Quantity has been artificially increased.

The *Native Cinnabar* is deservedly esteem'd, and prescribed in large Quantities, whose extraordinary Vertues are so well known in *Epilepsies*, as well as in Diseases of the Skin, as the *Itch* and *Leprosy*, receives this Commendation from
our

Of the Force and Energy of

our *Dispensatory Writers*; "That by the
 "Weight and Subtlety of its Particles, it
 "conduces in such Intentions; as by those
 "Properties it is enabled to pass thro'
 "the minuteſt Paſſages, and by its *Mo-*
 "*mentum* to break thro' the Obſtructions
 "that in the capillary Meanders are the
 "Occaſion of ſuch Diſorders; that it is ex-
 "tremely ſafe, ſo that it may be given in
 "conſiderable Doſes without any Danger
 "of, or Tendency to any of thoſe Diſtur-
 "bances which happen from Mercurial
 "Preparations, as particularly Salivation;
 "that *Quick-Silver* and *Sulphur* make
 "up the greateſt Part of its Compoſi-
 "tion" *.

It is natural then to conclude, that the
Mercury gives *Weight* to its Particles, as
 the *Lead* to the *Lapis Calaminaris*.

Schroder takes Notice, that in ſome Parts
 of *Germany*, and chiefly in *Hungary*, from
 whence we have the greateſt Quantity,

* See *Allen's Dispensatory*.

that

that the very Peasants know how to draw the *Quick-Silver* from it.

Diascorides would therefore have it to be a *Minium*, because a great deal of *Quick-Silver* may be obtained from it.

So we find we have been using *Crude Mercury*, all this while disguised under a borrowed Name, and admir'd its Safety and surprising Effects; and nevertheless persist to oppose it with all the Arguments that can be devis'd, to cast an *Odium* upon this great Specifick.

For divest the *Cinnabar* of the *Mercurial* Particles, and the remaining Parts will be mostly *Sulphur*; and of what Use it can then be of in these Cases, can never be imagined, unless it be to render the Bowels slippery.

It is self-evident therefore, a Truth which cannot be denied, that these *Salutary* Effects depend only upon the *Mercurial* Particles; and that the former (that is) the *Sulphureous*, can have no Share in the Cure,
no

no more than if we were to apply *Crude Sulphur*.

I must here observe, not to derogate any thing from this noble Medicine, whose great Uses are so justly admired, that the Cure is a long while attempted and pursued before it turns out so happily; and this may not altogether, proceed from the small Quantity of the *Mercury* insinuated into the Habit, but also, in that the *Mercurial* Particles are so fetter'd and linked together with the *Sulphureous*, that they cannot be easily disengaged; and thus it is difficult for the *Mercury* to assume its *Fluidity*, which is one of its noblest Qualities, inasmuch as by that it is capacitated to enter and pass on with the circulating *Fluids*.

As *Cinnabar* is therefore on all Hands pronounced so very *efficacious* and *innocent*, without any one Objection to its salutary Causes, shall *Crude Mercury*, which communicates that Efficacy, participate nothing of the Praise?

And

And since it is this only that bestows upon it such Force and Energy, it is a strange Kind of Partiality to be so lavish in the Praises of *Cinnabar*, and so much to depreciate *that*, from whence only it becomes so excellent.



A TREA-

And since it is this only that follows upon it such Force and Energy, it is a strange Kind of Partiality to be so lavish in the Praises of Cinnabar, and so much to depreciate that, from whence only it comes so excellent.





TREATISE

ON THE

FORCE *and* ENERGY

OF

CRUDE MERCURY.

PART II.

CHAP. I.

Crude Mercury *considered with Regard to*
the Manner of Operation.

AS I proposed, having cleared the
Way in the First Part of this Trea-
tise, by pointing out the several Ob-
jections made to it, and giving such Answers

to

to each, as I hope may extricate us out of those Difficulties; am now, in this second, or practical Part, proceeding to establish what has been said, by a farther Explication of its Uses, and to apply it to Practice.

And, to this Purpose, the best Introduction will be, to give a general History of the Operation of *Crude Mercury* in this first Chapter; which will be more particularly treated of, when we come to those various Diseases, wherein the Application of it may be effectual; and because we could not avoid interspersing something of this Nature in the First Part, we will be as careful as may be to omit what we have there said; except it be thought that those Hints require an Explanation.

When *Crude Mercury* is admitted in the Stomach, neither its innate *Fluidity*, nor the Motion of that Bowel will suffer it to be at Rest; which is absolutely requisite if it is to be *sublim'd*.

The Cohesion of its Parts, which is naturally loose, will be divided indefinitely,
and

and the fine and more volatile Parts will be disengaged from the gross and more crude, so as to be render'd minute enough to be received by the small Mouths of the Lacteal Vessels.

And, by a peculiar Providence of Nature, the *Mercury*, as well as the *Aliment*, is sustained and supported by the Folds and Wrinkles so remarkable in the small Guts, more especially in the *Jejunum*, where is the greatest Number of the *Lactea*; which has bestowed upon it *Valves* called *Cou-niventes*, the great Use of them being to detain and fetter the *Chyle*, from subsiding and pursuing the Course of the Excrements.

And the Intestine having an horizontal Position, and that attractive Faculty in all Tubes of imbibing whatsoever is minute enough, and proportional to the Size of their Orifices, gives Opportunity for the *Mercury* (than whose Parts none are smaller, nor more easily divisible) as well as the *Alimentary Matter*, to find a Passage into these minute Openings of the *Lacteals*.

It may probably be ask'd, What Proportion or Quantity is together with the *Chyle* conveyed into the *Thoracick Duct*, and so onward to the *Heart*? And truly this cannot well be ascertained; and if only a few Grains be separated from the Mass, it may be sufficient for the Purpose; and that the *Quantity* is small, is allowed by those who have had the Curiosity nicely to weigh it, both before and after the Operation, the Quantity diminished being almost insensible; which is another Argument for the extreme Divisibility of its Parts.

I am well aware, that some may be apt to cavil, and say, that the *Mercury* is all exonerated without entering the Vessels for *Chylification*; as I remember a particular Passage in a late Pamphlet (containing Remarks on Dr. *Dover's* Legacy) wherein is related a Case of a Relation of the Author's, "who had taken by the Mouth a large
 " Quantity of Quick-Silver, in the Course
 " of an Ounce every Morning, for the
 " Space of nine Months;" and the Author most ingenuously confesses, "That all that
 " could be discovered from it was, that he
 " went regularly to Stool every Day; he
 " eat

“ eat and drank, and used Exercise as be-
 “ fore, but his Distemper still continued
 “ not one jot the better — But, *says the*
 “ *Author*, I have this farther Remark to
 “ to make on this Medicine; we preserved
 “ it as it came from his Body, by washing
 “ the Excrement, and cleansing it from all
 “ its Impurities, and it was reserved in a
 “ Bottle. He had purchased in that Time
 “ sixteen Pounds Weight, which he had con-
 “ stantly taken every Morning: When we
 “ came to weigh it again, there wanted
 “ only one Ounce and an half of its first
 “ Quantity, which I did conclude (*says he*)
 “ was lost in washing, tho’ very carefully
 “ performed.”

Let us rest here a while, first to discover the Author’s Intention by presenting us with this Case: And,

Secondly, to look back upon the Quantity internally applied.

I think his Intention is easily understood, and his Expressions signify as much, if any Construction can be put upon them; that no Good was procur’d by it; by which he ta-

citly implies, that no *ill Symptom* appear'd of its *poisonous Qualities* and deleterous Effects, which would certainly have been excited, if it has any at all, by a much less Quantity; and I may venture to say, if any such had arose, the Author would not have fail'd to expose them.

And now to look back upon the Quantity taken, "sixteen Pounds Weight, by an Ounce every Morning, for the Space of nine Months." Prodigious! that the Author in all this Time, and such a Quantity being swallowed, should not have found one ill Symptom: for by the Scope and Design of his Discourse, it is plain, he professes himself, not an Admirer, but an Opposer.

So that I think, when such a Case is brought before us, wherein so large a Quantity as sixteen Pounds were exhibited, it happens to be one of the greatest Arguments on our Side against the Fear that it should *sublime*, sufficiently treated of in another Place.

But, to end this Digression, we will proceed to the farther Relation of this extraordinary Case.

"Hence

“Hence (*viz.*) no Alteration being produced, he infers, “that the Heat and Motion of the Stomach is not sufficient to divide the Globules of the Quick-Silver, so as that any Part thereof may enter the Lacteals, but directly fall in with the Food, and so pass thro’ the *prima via*, as we could plainly perceive the large Globules intermix’d with the Excrements; for which Reason no Part of it could be communicated to the Blood, consequently could expect no Benefit from it.”

But this can never be urged as a Reason that the *Mercury* does not enter the Blood, by those that are acquainted with the *Divisibility* of Matter.

Dr. *Cheyne* observes, “That tho’ Crude Mercury be boil’d in Water, it will not lose the least estimable Weight; and yet that the Water will have such sensible Effects, as in Time to do all that any other Mercurial Preparation will do, he is convinced” *.

* See *English Malady*.

Therefore, if *Mercury* boiled in *Water* will thus impregnate it, and emit so large a Quantity of its volatile Parts into it, and the Weight of the *Mercury* is not sensibly diminished, I trust we shall not be condemned for too easy a Credulity, if we believe that some Parts of it also may enter the Blood altho' the least estimable Difference in Weight cannot be distinguished.

Again; If *adorant* Bodies, that send for their *Fffluvia* in a short Time, sufficient to perfume or scent a very large Circumference, and are afterwards weighed in the most accurate Scales, and the Diminution be found not equal to the fourth Part of a Grain; this that we have asserted will not appear so great a Paradox as some would have it thought to be.

The Disposition of the *Mercury* to mingle and associate with the *Blood* and all the *Animal Juices*, is sufficiently proved in the Experiments related in the fourth Chapter of the First Part of this Discourse, which the Reader may turn to; but

but now I proceed to relate the Mercurial Progress in the circulating Fluids.

When Crude Mercury incorporated with the *Chyle* has enter'd the Blood, it will, by its superior Force and Gravity, press forward thro' all Obstructions; by the Sphericity of its Parts, it will ever conserve a rolling Motion; it can never stagnate; for every Thing *lighter* will certainly give way to that which is so much specifically *heavier*: By the *Divisibility* of its Parts, it is ever capable of permeating the finest Passages, whence the impacted Matter will be driven forth.

If the Blood by Sickness is grownropy or viscid, it will restore it to its due Consistence and globular Form.

If the Blood be retarded in its Motion, it will add *Momentum* to it, and cause it to circulate more freely.

If the Blood and Humours are become *acrid* or sharp, from too great a Quantity of Salts dispersed in the Mass, by its rolling Motion

it will break the Points of them, and render them truly balsamick.

If the Blood abounds with *Scrum*, by increasing the circulatory Motion, it will assist in evacuating it by *Perspiration* and *Sweat*.

On the contrary, if the *grumous* Part is redundant; by Reason of which it cannot circulate with that Freedom and Celerity, it will reduce the Globules to their true Size, and by promoting all the Secretions, will assist in diluting it.

When I said, "It renders the Juices balsamick," I may be easily understood to mean, that where they abound with *Salts* it will blunt and sheath their Points, and restore them to their due Consistence, to their natural, mild, and balsamick State.

Finally, if these are the Causes (and, I am sure, I attribute nothing more than naturally flows from the Use of it) that are produced; as it is capable of doing as much as any one Medicine I know of;
as

as it is as great a *Specifick* (in these Disorders I am about to consider) as even the *Bark* itself; so it bids fairer for an *Universal Medicine* than any Thing yet discovered.



CHAP.



C H A P. II.

The Uses of Crude Mercury in the Iliac Passion, and other Diseases of the Intestines.

WE shall first undertake to shew the Efficacy of Crude Mercury in some *Acute Diseases*, and then to specify what *Chronical Diseases* it has also succeeded in.

Several Authors testify, that it may be taken in the *Iliac Passion*, not only without Harm, but with Success.

By its Weight, it will keep down the *Fundus* of the Stomach, and put a Period to the *convulsive* Motion of that Bowel; and as it passes forward, it will check and correct the *invers'd* Motion of all the Guts, by means of which the Excrements that should

should have been excluded by the *Anus*, and even *Clysters*, have been vomited up by the Mouth.

It is sufficiently agreed on all Hands, that this Disease is improperly called the *Twisting of the Guts*, because by *Anatomy* we are assured that such a Contortion can never happen.

And the Reason from whence our Assertion is grounded, is evident from the *Site* of the Bowels themselves, and their close and wonderful Connection with that intermediate Membrane called the *Mesentery*, which makes them to preserve their just Situation.

Anatomy likewise has discover'd the true Cause of this worst of Diseases, that the obstructed Excrement being at rest, in whatsoever Intestine it remains, occasions that the *peristaltic* Motion, which should proceed to the *Anus*, ends far short of it (*viz.*) in that Part where the Excrement is lodg'd; from whence an involuntary and convulsive Motion is excited in those Intestines beneath the Obstruction
upwards;

upwards; and the obstructed Excrement being not easily removed, and the Motion *contra Naturam* continued; the Gut in which the Obstruction remains is forced either into a Part above it, or into a contiguous Intestine, that may be compared to the thrusting of the Finger of a Glove into another.

By this invers'd Motion, thus excited, the Excrements that would have passed off by the *Anus*, and by the Obstruction, and the Situation of the Intestines one within another, as in a *Capsula*, the Gut not only inflames, but is strangled; a Stop is put to the Circulation, and a *Gangrene* succeeds.

In this Case, it is too well known, that the common appropriated Methods do rarely, if ever, succeed; Reason gives it against them, that they cannot, letting alone what Experience testifies: For to what End is the Stomach gorg'd and drench'd with *Catharticks*, that never pass so low as the Obstruction before they are return'd at the Mouth? To what End are *Narcoticks* given to stay the inverted Motion, since the Stomach al-

ways

ways rejects them? And were they to be detain'd, would, it's to be fear'd, rather increase the Obstruction, by rendering it more fixed.

Clysters, tho' frequently injected, can only cleanse but a small Part of the lower Intestines, if they, together with the Excrement, are not thrown up by the Mouth: And thus they plainly do Mischief, by giving an additional *Momentum* to the inverted *peristaltick* Motion.

Wherefore Reason dictates, and Experience confirms, that unless something be applied which is specifically heavier than all Bodies (except Gold) and a *Fluid* can only be sufficient to settle the *Ventricle*, and by its Activity to pass thro' the *Pylorus*, the Obstruction can not be removed, nor the *Vernicular* Motion restored.

And altho' the Manner of its Operation is so plain (I had almost said) certain Success so visible, and in a Case that will seldom or never admit of any other Remedy, yet the Adversaries to Quick-Silver will hardly allow it here; having formed so many wild

Chimæra's

Chimæra's of its Operation so very idle, that indeed they are below the Cognizance of every Writer; such as bursting of the Intestines, a *Poyson*, a *Caustick*, &c. And some have started such ignorant Notions, led on by I know not what Kind of Inveteracy, whereby it would appear, if, by the Reasons they advance, and the pretended Facts they relate, we may deduce any thing; I say, we must conclude, that Quick-Silver was the Cause of these Obstructions.

But besides our modern Histories of these Cases, wherein Quick-Silver has been so very successful, we have Antiquity also on our Side.

H. ab Heers affirms, "He has seen it given without any Harm, when it has been strain'd thro' Leather, it being void-
ed in a short Time, carrying the Excrements with it; after taking it, he presently gave a Clyster of *Crete Wine*, by Means whereof he has sav'd several that have been ready to die of the Tension
of the *Colon*."

Paræus

Paræus says, "Several have been cur'd
" of the *Iliac Passion* by drinking three
" Pounds of it; and that some give two
" Ounces in a rear Egg."

Petrus Pena, as *Veschius*, Obs. 43. relates,
" cleans'd the Quick-Silver from the lea-
" den Part by boiling it in Vinegar and
" Wine, and then passing it thro' a Lea-
" ther; then he tied it in a Bunch with a
" Thread, in a thin Parchment wherein Gold
" had been beaten: He inclos'd an Ounce
" and an half of Quick-Silver so purified,
" and covered it with a Glew made of *Gum*
" *Tragacanth*; and when it was dried by a
" gentle Fire, he took off the Thread, and
" gave the Patient the Pill to swallow in
" Honey, or Syrup; so the Glew being
" presently dissolved in the Stomach, the
" Quick-Silver purged plentifully; and one
" was currd by taking this Dose twice" *.

It is evident, therefore, that the taking
of Quick-Silver by the Mouth is not quite

* See *Mercurius Compitalitius*, or *A Guide to the Practi-
cal Physician*.

so novel as some would have it thought to be; and the great Caution wherewith it was used in the Case of *Petrus Pena*, can signify no more, than that its Innocency not being so well confirm'd, was the only Reason why it was used with so much Caution, and so sparingly; except in the Case of *Paraus*, who apply'd it in a larger Quantity.

It is certain the admirable Efficacy hereof they were sufficiently convinced of (and we may venture to determine thus much for them) upon Account of those transcendent Properties, its *Weight* and *Fluidity*. Its Efficacy they were assured of, tho' its Innocency was not so well known; which, upon Trial, appeared no less remarkable, than that it had removed the Cause of these Complaints.

Under this Head, it must be remember'd, how extremely useful it is in all Obstructions of the Intestines whatsoever; whether of the Cholick, simply so called, by Inflation of Wind into the *Colon*, or complicated with a Nephritick Disorder, as in the Stone-Cholick.

In

In violent bilious Vomitings, accompanied with acute Pains of the Belly, and in extreme Costiveness, which, if not timely regarded, will produce that terrible Disease we have been treating of, and may be look'd upon as the first Stage.

To exemplify the Excellency of Crude Mercury in these Disorders, we may have Recourse to the following Histories.

A Man aged Forty was afflicted with Hist. 1. violent Pains of the Belly, Costiveness, and incessant Vomitings of bilious Matter, which held him two Days before I was concerned for him; a Swelling appeared a little above the *Navel*, which I discovered to be an umbilical *Rupture*; endeavouring to reduce it by Compression of my Hand, that it might be retained by a Brace, it would not be removed, nor in the least recede.

Before he applied to me, he fancied his Stomach to be foul, and therefore had taken a Vomit of his own preparing, made of a strong Decoction of the *Senecio vulgaris*, or common *Ground-sell*; which together with

F

the

the Pre-disposition of the Stomach to throw up its Contents, excited such strong Convulsions in all the Intestines, that I concluded he was past the Assistance of Medicine.

I gave him two Ounces of the Quick-Silver, which remain'd with him, his Stomach did not recoil, and in some Hours it pass'd downward, and he had three or four Stools.

The next Day the Swelling that appeared so tense and hard, became soft and pliable, and easily receded; but toward Night the Vomiting returning, the Dose was repeated, which gave him more Stools; his Pains went off, the Vomiting ceas'd, the Rupture was reduced; that Night he slept well, and thus was clear'd of his Disease, with only four Ounces of this noble Medicine.

Such Success from so small a Quantity could hardly be expected, nor did I in the least look for; the Misfortune lies, in that Crude Mercury has been so confidently reported

ported a Poison, and of the most malignant Sort, that it is with great Difficulty we can prevail to apply it ; Arguments cannot persuade, and nothing but the last Extremity can overcome ; and when we have obtained thus much, we are limited in the Quantity, by the Patient's unreasonable Fears, or those about him.

A Woman about Five and Thirty was seiz'd with a violent Pain in her Stomach and Bowels, continual Vomitings, and a constipated Belly. Hist. II.

I applied the briskest *Catharticks*, and the most purgative stimulating *Clysters* ; the Vomiting rather increas'd than diminish'd the *Catharticks*, as often as swallow'd thrown up ; the *Clysters* as often as injected return'd in the same State ; Opiates were taken to moderate the Convulsion of the *Ventricle*,

Catharticks, with *Narcoticks* and *Clysters*, were still repeated with this bad Success, that no Stools could be procured, the Pain greatly increased, and the Vomitings more frequent than ever ; all proving ineffectual,

and the Symptoms heightened, together with a strong Fever, I propos'd the Quick-Silver, which was at last complied with. She took for a Dose two Ounces, repeated once in three Hours till she had a Stool; in all she had taken six Ounces. When I visit'd her again, she was much compos'd, her Pain moderated, her Vomiting ceas'd, but no Stools. I press'd her to continue the Course, but she replied it was a Poison, and that she had taken already too much: I then put her into a Course of *Catharticks*, and directed half a Dram of the *Pil. ex Duobus* made up into Pills to be swallowed, and two Ounces of the *Elixir Salutis* to be drank after it, and another *Clyster*. The Stomach was so well restored to its Function and Use, that she retained the Purgatives, and in a few Hours had some Stools, slept well afterwards that Night; but the next Morning the Pains returned. We kept on with *Catharticks*, and after Stools gave her a *Narcotick*; they returned again the next Morning, and thus was relieved again; and this Day the Quick-Silver at last came away, carrying with it an exceeding large Stool of most fetid and knotted Excrement; upon

upon this her Pains quite left her, and she is well.

And here it is very remarkable, that from the first Dose of Quick-Silver, we had no more Reachings nor Vomitings, upon which, it must be allow'd, that the greatest Difficulty retarding the Cure depended, and therefore may be insisted on as the first Intention; which was by the Weight of the Mercury most happily procur'd.

'And that the Mercury made not its Way sooner, was owing to the Smallness of the Quantity swallowed, and the great Resistance of the Excrement which stuff'd up the Intestines; so that had a larger Quantity been taken, the greater the Weight, the sooner would have been the Dejection, and the Cure accomplished.

About the latter End of *September* last I was in *London*, and had Occasion to recommend *Crude Mercury* in a like Case: I cannot give a better Account of it, than by inserting his Letter that attended the Patient.

* * _____ * *

"I Can't omit the Case of Mrs. Moore; you
 " being so opportunely at our House,
 " when the News came in that she could
 " not retain any thing in her Stomach, and
 " had vomited up a purging Potion but a
 " little before taken; and advising us to
 " give the Quick-Silver, by which she was
 " perfectly relieved, you seem to have a
 " Title to her Case, as to you her Life
 " and Recovery are entirely owing, at a
 " Time when there seem'd to be no Re-
 " medy but Death.

Hist. III. "On Sunday Afternoon she was seiz'd
 " with racking Pains in her Stomach and
 " Bowels, which she endur'd all Night;
 " for Relief, she apply'd to Brandy between
 " whiles, and sometimes mix'd with hot
 " Beer: An high Fever came on, nothing
 " could be retain'd in her Stomach, for
 " every Thing was thrown up by the
 " Mouth, and extremely costive. Betimes
 " on Monday Morning she took an Ounce
 " and

“ and an half of a Cathartick Tincture, which
“ could have no Effect, being immediately
“ thrown up. After this, we would have
“ given her some purging Pills, but she
“ could not swallow them; instead there-
“ fore, we ordered her half an Ounce of
“ the *Cariocostinum* to be dissolv’d in an
“ Ounce of the Tincture, and a Clyster to
“ be administer’d to meet and assist its
“ Operation, by relaxing the constipated
“ Belly.

“ The Potion returned in about a Quar-
“ ter of an Hour, with Abundance of
“ bilous Matter and undigested Goose she
“ had eaten on *Sunday*; the Clyster re-
“ turn’d as clear away as it had been in-
“ jected. I omitted to inform you of a
“ convulsive Fit she had in the Morning
“ that held her half an Hour, and another
“ in the Afternoon, with violent Vomitings
“ between whites, and no Stools, no Passage
“ downwards; which, if you remember,
“ determin’d us to give an Ounce of Quick-
“ Silver; from which Time she never vo-
“ mited; her Pains, except a little Sore-

Of the Force and Energy of

“ nefs, vanifhed : This happy Succes at-
 “ tending the firft Dofe, which was taken
 “ at Five o’ Clock in the Afternoon, at
 “ Eight o’ Clock we repeated another
 “ Ounce ; after which ſhe ſlept the whole
 “ Night, as if ſhe had taken a ſtrong
 “ *Opiate*, and had ſeven or eight moſt fa-
 “ tid Stools between whiles.

“ The *Symptomack* Fever and Inflam-
 “ mation of the Inteftines was by *Tueſday*
 “ Morning entirely abated, ſo that we
 “ had no room to take off any Blood, as
 “ we had intended.

“ On *Wednesday* ſhe took another Ounce,
 “ and at Night repeated to prevent a Re-
 “ lapſe, which gave her more Stools.

“ There is yet one Thing farther I had
 “ like to have paſs’d over : She had a
 “ young Child ſucking at her Breaf, which,
 “ becauſe of her Diſorder, they had no other
 “ Way but to wean ; but her Milk is re-
 “ turn’d as full as ever, and I have ſeen
 “ the Child this Morning again at her
 “ Breaf.

“ Breast. To conclude this whole Relation, both the Mother and the Child are now in perfect Health, and go abroad.

*I am ——— * *, &c.*

SAMUEL HARRIS.

From the Whole, we may draw this Inference, That the Doses of the Mercury must be proportion'd, as other Medicines are, to the *Age, Strength, and Constitution*; and also, must be increas'd or diminish'd, according to the Height and Degree of the Disease: For, in the Cases before us, it is evident, that two Ounces did produce in one, what six Ounces would not in another; and in each of the Cases before us, the same Quantity had not the same Effect.

But then it differs most essentially from other Medicines in this, that the Dose may be increased and repeated without any Harm; whereas in those that are any thing efficacious, if not used cautiously, our Patient may be lost.

But

Of the Force and Energy of

But this, as I have said, can never happen here; and all the Harm to be done by an Over-Dose, is a Matter of no great Difficulty, being only more frequent Stools.

Things being so, in these Cases I should be for repeating the Mercury, and increasing the Dose till the Intention is answered.



But then it differs most essentially from other Medicines in this, that the Dose may be increased and repeated without any Harm; whereas in those that are any thing else, it is not used cautiously, our Patient may be lost.

CHAP.



C H A P. III.

*Of the Uses of Crude Mercury in the
Cure of Rheumaticks.*

THE *Rheumatism* has been defin'd,
“ a *Distemper* affecting chiefly the
“ common Membrane of the Muscles,
“ which it makes rigid, and unfit for Mo-
“ tion”*: A Definition much of a Piece
with what some Philosophers have used;
who, when they were at a Loss to explain
some of the *Phænomena* of Nature, ele-
gantly termed them *Occult Qualities*; but
let us compare this with what the learned
Sydenham has said of this Disease.

“ This Disease appears at any Time, but
“ especially in the *Autumn*, and chiefly

* See *Quincy's Lexicon*.

“ seizes

Of the Force and Energy of

“ seizes those that are in the Flower of
 “ their Age; it most commonly arises by
 “ taking *Cold*, after the Sick has been heat-
 “ ed with *violent Exercise*. ---- It begins
 “ with Shivering and Shaking, and pre-
 “ sently Heat, Restlessness, and Thirst; and
 “ other Symptoms follow which accom-
 “ pany a *Fever*. After a Day or two,
 “ and sometimes sooner, the Patient is
 “ troubled with violent Pain, sometimes
 “ in this, sometimes in that Joint, in the
 “ *Wrist* and *Shoulders*, but most common-
 “ ly in the *Knees*: It now and then
 “ changes Place, and seizes elsewhere, lea-
 “ ving some Redness and Swelling in the
 “ Part it last possess’d. At first, for some
 “ Days, the *Fever* and the Symptoms above-
 “ mentioned happen sometimes together;
 “ but the *Fever* goes off by Degrees, the
 “ Matter of the *Fever* being put off to
 “ the *Joints*; which is manifest, for that
 “ the *Fever* frequently returns, when the
 “ morbidick Matter is repell’d by the unsea-
 “ sonable Use of external Medicines,” &c. *

* See Sydenham’s *Physick*.

CRUDE MERCURY.

77

It often appears periodically, especially in the Head and Face.

It is not easy to determine the precise Seat of this Disease; it sometimes affects the *Joints*, and sometimes the *Muscles*; and at other Times the *Glands* will be affected, which appears by these concurrent Symptoms, *Pain*, *Inflammation*, and *Tumour*; and in Pains of the Face and Jaws, the *Parotidal Glands* generally are affected.

The Blood, in these Cases, is observed to be *Pleuritical* and *Sizy*, and therefore the Author before quoted recommends *Bleeding*, and that, where the Constitution will bear it, to be frequently repeated.

And thus much in General; but now let us enter more narrowly into the Rise of this Disease, from whence the Seat of it will be in some measure determined, and the proper Methods of Cure more easily appear; for without we can determine something of the State of the Blood in these, and the like Cases, we may wander still in the dark.

The

The Blood is of an undue Consistence ; its Quality is altered, as well as its Quantity increased. The *Scrum* is diminished, the *Mass* is incrassated, and the *Blood* in Part deprived of its *Liquidity* ; it becomes ropy and glutinous.

From such a State, it is easily perceived, that the Blood is no longer capacitated to circulate thro' the meandrous Windings of the *Capillary Vessels*, but is apt to stagnate there, there being not a due Quantity of *Scrum*, the *Grumous* Parts cleave together, and grow *viscid*, and, like a Dam, stuff up the Capillary Arteries ; the Blood being still in Circulation in the *larger Trunks*, by repeated Percussions, endeavours to press forward, and arriving at the finer Ramifications in the membranous Parts, excites Pain, Inflammation, and Fever : And till this Dyscracy of the Blood be alter'd, the Circulation cannot be performed in these Vessels ; nor can the Juices be secreted by the Glands, wherefore they must necessarily tumefy and inflame.

To

To attempt the Cure, according to the Rule of most medicinal Writers, Blood is to be taken away from the most convenient Part, *Attenuants* are to be apply'd, and a thin diluting Regimen is to be observed, and such other Measures taken as may give Velocity to the Blood, whereby the Obstructions may be removed, and the Circulation carried on with due Force,

And to this End, if the *Pulse* is feeble and languid, warm *aromatick* Medicines are applied, and such as are called *Sudorificks*, to promote Perspiration and Sweat; by which Means the Velocity is increased, the obstructed Matter faster wedg'd in, and the Blood is more deprived of that Moisture, of which already it has lost too much: But, as I said, the Patient is directed to a thin diluting Diet, by which it appears he receives more Benefit than by the repeated Doses of such Medicines.

Blisters too are often applied; but with what Success? The Blood receives a fresh *Velocity* by the Insinuation of the Salts in the Flies: A Vesication is made, Scrum is again

Of the Force and Energy of

again drained off, the Blood is more inflamed and incrassated.

And after these Evacuations of Sweat and Blisters, and it may be Urine, Narcoticks are given; and thus the Disease is protracted, rather fix'd than remov'd.

If in the Place of these we constitute a Remedy, shall we be censur'd?

Quick-Silver, as will appear by the following Histories, does best answer the Intention; "by its superior Force and Gravity, it will break thro' all Obstructions," and open a Passage for the Blood which was before impeded in its Course.

It will sufficiently dissolve the Viscidities in the Blood and Juices, and render their Parts small enough to pervade the finest Capillary Canal.

Or supposing that the Blood is of a different Contexture than that I have described (*viz.*) if it be acrid and sharp, by a Confluence of saline Corpuscles, and that by its
Acrid

Acrimony, it corrodes the nervous and membranous Parts, Quick-Silver, with a thin cooling Diet, will soonest expedite the Cure; for by its *spherical Form* and rolling Motion, it will break and destroy the Points of the *Salts*, thereby restoring the Blood to its natural, mild, and balsamick State; so that which soever be the Condition of the Blood, and all the Juices, do certainly participate of the same Dyscrasy: This Remedy, as I have several Times proved, will best effect a Cure after ten Ounces of Blood has been taken away, which must however, in Regard to Quantity, be proportion'd to the Age and Constitution of the Patient.

I have taken but little Notice of the *Solids* in this Disquisition, because they are only passive.

A young Woman in the twenty-first Year Hist. IV.
of her Age, was afflicted with an universal confirm'd *Rheumatism*, the Use of her Limbs taken away, and Bed-rid; by frequent Returns, it was almost become a Part of her Habit. Under the common Methods of Cure, more than once she had languished for a

G

Month

Month or six Weeks together, and after this another Fortnight before she was able to get down Stairs.

By pursuing this Course of *Crude Mercury*, she was able to go abroad in a Week, entirely free from Pain, and well, altho' before the Application she could not turn in her Bed, being not in the least able to move a Limb, or a Finger, without intolerable Pain; and ever since, tho' of a Rheumatick Habit for several Years, a Fit constantly reviving Spring and Fall, has enjoyed a *Series* of continued Health, no Return, not so much as wandering Pains, notwithstanding her Employment is very much in the Wet and Cold.

Hist. V. A Man aged Thirty, of a lean consumptive Habit, occasioned by repeated Illnesses, and frequent Returns of the *Rheumatick Paroxisms*, at least once or twice in a Winter for seven Years past, was seized with very acute Pains, and Lameness in his Limbs, complicated with Inflammation of his Throat and Lungs, a violent Looseness, and sharp Pains in his Bowels, Flushing in his Cheeks, the

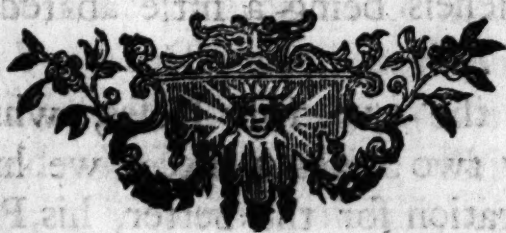
the Vessels of the *Tunica Albuginea* of his Eyes as turgid as in an *Ophthalmy*, hard quick Pulse, dry black Tongue, Urine of the highest Colour like Blood, and a Sediment as deep as *Vermilion*; in short, here were all the Symptoms of the highest inflammatory Fever; and this was the second Day.

My first and proper Concern was to abate the Inflammation; and to release him from strangling, I took away about fourteen Ounces of Blood from the Arm, the Surface of which soon appear'd *sizy*, and of a *greenish* Colour, the *grumous* Part very tough and black, the Scrum of a yellowish Green, and in no small Quantity; the Symptoms increasing, that is, the Pain more acute with *Delirium*, only his Throat a little relax'd, that he cou'd swallow Liquids with less Difficulty, I began the *Mercurial Course*, the Looseness being a little abated.

After the two first Doses, which gave him only two Stools a-piece, we had a visible Alteration for the better, his Pains moderated, could now swallow pretty well,

and began to expectorate a tough ropy Phlegm, and fell into natural breathing Sweats. On the fourth Day he was able to get out of Bed to have it made, gentle Sweats continuing, and Stools between whiles. He was, in fine, totally relieved of all his Complaints on the eighth Day; and on the twelfth came to my House to return me Thanks for my Cure.

I must take Notice here, that in more Cases than one, I have been an Eye-Witness of the great Success of Bleeding freely from the Arm, or most convenient Part, in high inflammatory Rheumatisms, when it has been repeated occasionally, even as in Pleuritick Cases, every other Day, or third Day, by ten Ounces at a Time; and I have observed the gradual Recovery after every Bleeding.





CHAP. IV.

Of the Uses of Crude Mercury in the Gravel and Stone.

IN Anatomical Exercises, where a Fluid of extraordinary Subtlety is wanted to dilate the small Ramifications of the Vessels, we would make perspicuous, *Crude Mercury* is frequently used.

I took the Kidney of a Dog, with the *Emulgent Artery* annex'd; into it I pour'd a large Quantity of Quick-Silver, which, by its own *Gravity*, without any Force, pervaded that whole *vasculous* Contexture, even till it was discharged into the *Pelvis* and *Ureter* by the *Pori Urinarii* of *Belini*, the Quick-Silver being first cleared of its Dross, and strain'd for the Purpose.

Exper.
XVIII.

It is apparent, by the *Laws* of *Secre-*
tion, that these small *Tubes*, or rather, with
Bellini, *Pores*, refuse Entrance to the glo-
bular Parts of the Blood, tho' ever so small,
 by admitting only the *serous*.

Urinary
 Secрати-
 on, how
 per-
 form'd.

And this is the Nature of *Urinary Secre-*
tion: The Blood deduc'd by the Aorta, or
 great Artery, is thrown into the *Emulgent*,
 which sends forth some Branches to the Sur-
 face of the Kidney for its Nourishment,
 the larger *Trunk* thereof entering the ex-
 cavated Part into the very Substance, emp-
 ties the Blood into those Capillary Arteries,
 of which the Glandular Part is partly
 form'd; and each Gland empties the *Scrum*
 by one or more *excretory Ducts* into the
Pelvis, as the common Receptacle; which
excretory Ducts are no other than the ex-
 treme Endings of these *Capillary Arteries*.

Now if we imagine a *spiral Tube* as
 analagous to the vasculous Contexture of
 these Glands, which secrete the Urine, the
Bore of which in the *Centre* may be capa-
 cious enough to admit a *Globule* of Blood,
 the *Diameter* whereof decreasing gradually,
 to

to the Extremity of the *Circumference*, till it is become almost as fine as an *Hair*.

The *Globule*, or grumous Parts, may enter the Tube, and proceed to some Distance; but the *Bore* growing less and less, so as to become too small to admit them, they are refused.

Wherefore, as the Blood consists principally of two Kinds of Particles, to wit, *Grumous* floating in *Serous*, the Parts of the latter being infinitely more fine and subtle, will be received, and pass thro' to the extremest *Capillary* ending without any Difficulty, and thus arrives at the *Pelvis*, while the grumous Parts not being able to proceed, are returned by the recurrent Ramifications to the Trunk of the *Emulgent Vein*.

This being the Nature of this *Secretion*, as indeed it will hold good in all others, if we consider the Minuteness of these *Pori*, or *Secretory Vessels*, it will be difficult, in the first Place, to adapt any Medicine, in ordinary Practice, whose Parts are small enough to penetrate and promote

this Secretion, *Asparagus* indeed has a wonderful Effect this Way; and *Onions*, *Oil of Turpentine* likewise, and the *Balsamum Capivi*, every of which may be smell'd in the Urine. Secondly,

The Difficulty will be greater to adapt a Dissolvent for the *Gravel*, or *Calculus*, latent either in the Urinary Pores in the Pelvis, or Ureter, or Blather. And, Thirdly,

Another Difficulty will be, to introduce something that is able to alter that Disposition in the Blood, by the so great Confluence of *Salts*, so productive of these *Sandy Concretions*.

That a Dissolvent efficacious enough to break to Pieces, and discharge the accumulated Gravel, can be introduced, is diametrically opposite to *Reason* and *Philosophy*; for then it would inevitably exco-riate and destroy the Parts it passes thro' in its Progression; besides, were it so, and no Injury like to be the Issue, its *Force* and *Virtue* must be very near lost during the
Time

Time it is in the Circulation thro' so many Passages to different Parts, by the Fluids it mingles with; and thus we see the Delusion of such Inventions.

But from the known Qualities of *Crude Mercury*, it can never excoriate, nor can it receive that *Alloy* as is able to rob it of its excellent *Force* and *Virtue*; or be it so, we can increase the Quantity without Fear of *Corrosion*, *Danger*, and *Hurt* to the Vessels thro' which it circulates.

By the Experiment, just now recited, it is visible that its Parts are *minute* enough to pervade these *minutest Ramifications*, assisted only by its *Gravity*.

But let us proceed to examine and state the *Causes* of this *Lapidifick* Nature (if we may so call it) in the Urine.

From the *Analysis* of the Urine, it is evident that it consists of *Water*, which makes up the *Basis*; of a small Portion of *Bile*, which gives it a *citrine* Colour; of a *pituitous* Kind of Matter, swimming on the Surface,

Urine,
what.

face, and sticking to the Pot, which makes that Part call'd *Corona*; and, lastly, of a *saline, earthy* Portion, which from the *Aiment* is mix'd with the *Urine*, which may be call'd the material Part of the Stone, that being over luxuriant in the Habit from *ill Food* and *bad Digestion*, enters the Chyle and the Blood, and is convey'd together with it by the *Emulgent* into the Kidney; it remains in the extreme Branches of the *Artery*, and there it will stick, being first a small *Particle*, or Rudiment of a larger Stone; and by collecting more *petrifick* Matter, it increases daily one Shell over another, till at last it becomes a Stone made up of several *Lamina*, like the Peelings of *Onions*, or the *Bezoar* Stone, which has many Coverings; and thus increases gradually.

Another Cause is drawn from the Constitution and Form of the Kidney itself, which is a passive and second Cause, proceeding from an Over-straitness of those Passages which transcolate the *Urine*, or else a Weakness in the expulsive Faculty, whence the *Urine* is too long retained, there

there being, at the same Time, a Quantity of *Tartareous Saline* Particles in the Blood to assist this *Calculous* Constitution of the *Kidneys*.

These first and secondary Causes (*viz.*) the *Blood* abounding with *saline, tartareous* Matter, the *Over-straitness* of the urinary *Tubes*, and the *Weakness* of the expulsive Faculty (which is a Disorder of the *Solids*) all concur to generate the Stone and Gravel.

It is needless to enquire whether or no the *Stone* is generated in the *Blather*, or altogether in the *Kidneys*, because I think the latter is generally assign'd to be the Seat of its Origination,

The *calculous Rudiment*, by its increas'd Bulk and Weight, assisted by an Influx of Urine, slips from the *Tubulus* and falls into the *Pelvis*, where it perhaps receives another Increase, till at length it is driven forth into the Ureter, and convey'd together with the Urine into the *Blather*. If it be not of a smooth Surface, by its Angles
or

or Asperities it dilates and cuts its Way into the *Vesica*, and carries Blood with it.

Ifchury
account-
ed for.

And here it grows to those Dimensions we often see it when extracted by the Operation called *Lithotomy*. It assimilates more of the *saline* Parts and earthy *Recrement*, gains fresh Coverings, increases to a prodigious Bulk, falls upon the Neck of the Bladder, choaks up the Passage to the *Urethra*, and brings on that *Ifchury* which miserable Wretches, in such Circumstances, are afflicted with,

This being the State of this Disease, any one will deserve well in the *Healing Art* who can appropriate a Remedy powerful enough, (as well as harmless to the *Animal Oeconomy*,) to remove these concreted Bodies in the *Tubuli*, and to strike at the Root of this Disease, that is sufficient to dissipate that *tartareous* Matter in the Blood, which must be regarded as the *Primordium* of these Diseases.

The Intention would be vain and fruitless, (I have fully proved,) to pretend to dissolve the
the

the Stone in the Blather, and can never be attempted but by the truly ignorant: But if we can apply a Medicine that will alter the Disposition of the Blood apt to breed the *Arenous* Matter, that is able to drive forward the concreted Particles, the Beginnings of the future Stone, and cleanse the *Tubuli Urinarii* from all those *Crudities* sticking in their most narrow Passages obstructing the Urinary Secretion, that cannot, till these are removed, be recovered, we shall deserve well; inasmuch, as we substitute a Remedy for that which had none before till it arrived to its greatest Height and last Extremity, only to be cur'd by Cutting.

It has been demonstrated by the Experiment of the Kidney, that Quick-Silver is able to pervade those strait and narrow Passages without any Force, and therefore it will best answer the Intention of removing whatsoever obstructs them.

It is as easy to prove, that it will best answer the Intention of altering that *Dyscracy* in the Blood already enquir'd into, and thus encounter the Disease in its most essential Part,

Part, by destroying the *saline* Particles that will always furnish Matter for another *Paroxysm*.

In the Cure of Diseases, it has been an old Complaint, that more Pains and Diligence are applied to obviate the *Symptoms*, than to eradicate the *Disease*; but our Design is laid on the fundamental Part, its first Spring.

Whether
Red Wine
may be
the Cause.

It is a common Observation, that Persons addicted to drinking large Quantities of *Red Wine*, are most liable to *Nephritick Disorders*; but I cannot think so, it remaining with me a Question, Whether *Red* or *White* abound most with *Tartareous Matter*? Indeed the *Red* has a *Roughness* and *Astringency* which the other does not so much abound with, if that can be any Reason; which to me is none, I must confess, to be any Foundation for the Stone, altho' it may assist the *Stony Concretions* in those who are already subject to this Disease; but I can never believe that it has been the sole Occasion of it in such Persons; which

which ought therefore to excite the same in all, or it can prove nothing.

And we have Instances of *Nephritick Cases* Hist. VL in those who never used it; one whereof was communicated to me by an ingenious Surgeon, and excellent Anatomist, who opened a Child of six Weeks old that died in violent Convulsions, the Cause of the Disorder unknown, or at least mistaken till now, when the *Pelvis* of the Kidney was found full of *Sandy Concretions*, which can never be imputed to any *Tartareous Liquors* the Child had taken, but rather to a natural Disposition in the Blood born with it, and perhaps latent some Months before.

The Symptoms of the Stone in the Kidneys are, Convulsions of the *Ventricle*, which excite *Vomitings* and *Reachings*; Vomiting and if we consider the *Anatomy* of the Kidney, the Rise of this Symptom will be easily explicated; for the interior Coat or Covering is of a *Nervous Contexture*, streak'd with fine *Filements* of Nerves from the *Sixth Pair* and *Bamus Stomachicus*, extended all along

along the *Ureters* also: Now by the near and immediate Communication of this latter Branch with the *Ventricle*, as above explained, arises this Symptom; that is to say, the *Kidney* and *Ureter* being affected with Pain, the Stomach will needs be agitated with convulsive Motions; and from hence only can arise the Symptom of *Vomiting* in *Nephritick* Cases. Pain in the *Loins*, the Seat of the Kidneys, and in the *Hips*, and *Numbness* of the *Thigh* and *Leg*, *Difficulty* of Urine having reiterated Motions, and little or nothing evacuated, and what comes away of a deep Colour, sometimes tinged with Blood, especially after *Exercise*, a *Gravelly* Sediment sticking about the Sides, and sometimes loose at the Bottom of the Pot.

Numb-
ness.

The Numbness of the Thigh proceeds from the Pressure of the *Calculus* and tumefied Kidney upon the Head of the *Psoas Muscle*, just where the *Nerve* enters to disperse its Branches for the Use of that Member.

None,

None, I believe, can expect that *Crude Mercury* is able to dissolve, or break in Pieces the Stone when form'd; it is sufficient, that before the Disease is arriv'd to such an Height, that it can promote a Passage for the *looser, sandy* Parts, and drive them forth: I say, it is sufficient that it can prevent the *Increase* hereof by altering that Indisposition of the Blood, by destroying the *acid saline* Parts, and sending them out of the *Habit*, and by assisting all the *Secretions*, especially those where these Concretions have their *Rise and Increase*.

I shall mention one extraordinary Case Hist. VII. of this Nature, and conclude this Chapter, which I was an Eye-Witness of, by the kind Communication of an eminent Surgeon, who let me see a Pair of Kidneys dilated extremely, the whole *Parenchyma*, or glandular Substance, was entirely wasted; and it is hard to say whether the *Pelvis* was extended thus, or whether it was not also destroyed together with the *Parenchyma*; the whole, however, consist-

H

ed

ed of nothing but *Stones* and *sandy Matter*, inclos'd with a *Purse* or *Covering* to contain them; the *Consequence* whereof was, if I remember right, that the poor unhappy Patient piss'd large *Quantities* of *Blood*, till *Death* put a *Period*.



CHAP.



CHAP. V.

*Of the Uses of Crude Mercury in the
Cure of the King's Evil.*

IT is not my Business to dispute whether this Disease be curable, or not, by the *Royal Touch*; it is sufficient that it may be cur'd without; there have been Instances of a Cure by *Salivation*, tho' seldom found; but I do verily think, that upon this one Principle *Crude Mercury* may be sufficient for it: (*viz.*) That it is one of the most powerful Dissolvents of any Thing we have known; and this consider'd, together with its mild and gentle Operation, without Irritation and Acrimony, makes it to differ widely from such as tear to Pieces and destroy the Parts they are apply'd to, which happens in *Cau-sticks*.

That Definition of *Paulus* is most suitable to this Disease, where it is seated among the Glands: *Strumæ sunt Glandula indurata*. But as it often appears there are Tumours and Ulcers which bear a near Resemblance, at least, to these, that “are not (as *Wiseman* expresses it) “concrete in any “Glandule;” neither can they be agreeable to that other Definition of *Ætius*; *Strumæ sunt carnes subcandidæ facile augescentes, in Membrana contentæ*, &c. being not always contain’d in a *Cystis* or Membrane*.

Thus *Wiseman* defines it, to be “a Tumour arising from a peculiar Acidity of “the Serum of the Blood, which whensoever “it lights upon Glandule, Muscle, or Membrane, it coagulates and hardens; when “it mixeth with Marrow always dissolves “it, and rotteth the Bone.

But however, the Glands are the most notorious Seat of this Disorder, and that

* See *Wiseman*.

may be some Reason why Authors have generally confined it to them.

The immediate Causes we are ignorant of, inasmuch as we cannot precisely determine the State of the Blood any otherwise, than that it is owing to Viscidities in the Glands and membranous Parts, which are apt to congeal and indurate, from a slow Circulation, and perhaps Stagnation in the Capillary Arteries.

The more remote Causes, to which the former owe their Original, are ascrib'd to Intemperature of Air, bad Diet, Want of Exercise, hereditary Affections, &c.

Such Children as have the *Rickets* are particularly liable to this Disease.

Mercurial Preparations will go a great Way to dissolve these Indurations; but they are to be us'd with great Caution, especially for Children, who are most liable thereto, and a long Course of them is to be pursued.

But *Crude Mercury* is capable of curing with more Certainty and Expedition.

Hic. VIII. A Child of about three Years old was brought to me with the *Parotidal* Glands on both Sides, very much tumefied and indurated: On one Side the *Tumour* was *suppurated*, and the Ulcer *sinuous*, both upwards and downwards, which I had some Thoughts of dilating, but was happily prevented by the kindly Effects of Quick-Silver.

After dressing him about three or four Days with a detergent Medicine, I put him into a Course of Crude Mercury, which dissolved the Swellings on both Sides, and so far perfected the Cure of the *Ulcer*, that by assisting the Digestion, the *Sinus's* are heal'd up, and all is ready for cicatrising, but that I keep it open for some Time longer, still to preserve a Discharge, lest it hereafter break out again, the Course being not yet compleated, and not more than

than three Weeks since we enter'd upon it; but it is sufficient to say, that he is in a most certain Way of Recovery: his Health, which was impair'd, is greatly mended, and a lost Appetite restored.





The C O N C L U S I O N.

CRude Mercury is likewise able to do Wonders in many other Disorders, not only with more Expedition, but with more certain Success than other Methods.

Gout. In the *Gout*, I question not but it would be effectual, if prudently manag'd, by dissolving the Viscidities in the Blood that are determin'd to the Joints. It is most certain, that this is the Seat of the *Crisis*, not only evident by the Pain and Swelling thence arising, but also when the Disease is *in extremis*, the gouty Matter shews itself to be determin'd thither by the *Chalky Substances* there separated.

In

In all Diseases proceeding from an impeded Circulation.

In the *Cancer*, I am well assur'd, by a *Cancer*. due Course persisted in, may at length be cur'd without Extirpation; and in all *schirrous* Tumours,

The *Palsy* may meet with a Cure by *Palsy*. this Method, especially if enter'd upon at the Beginning.

In the *Asthma* it has done Miracles, *Asthma*. which every one may have been sufficiently convinc'd of,

In *Obstructions of the Liver and Gall Blather*, it is capable of doing much Service.

The *Lepra*, and other *Cutaneous* Foulnesses, I am verily persuaded it will succeed in.

Womens Diforders, the Green Sickness, and Obstructions of the Monthly Purgations,

tions, it will promote and cure, by its Gravity forwarding all the Secretions,

I do but just touch upon these Diseases, because I have not had Occasion to try the Force of this excellent Remedy in them; and therefore would not tire the Reader's Patience with their Description, nor with the particular Management of their Cure.

In many Diseases of the Bones, proceeding from an internal Cause, it may be serviceable either in the Beginning to reduce them, or, in their Declension, to produce an *Exfoliation*: And this, I think, we may be partly assured of, when we observe the good Success of Mercurial Plaisters, laid upon *Tophi* and *Nodes*, and *Exostoses*: But these and other Diseases of the Bones are reserv'd for another Opportunity, in a particular Treatise, having had frequent Occasions of observing them, and made large, and, I hope, useful Collections,

And thus we have gone through, what we propos'd, to answer the general Objections

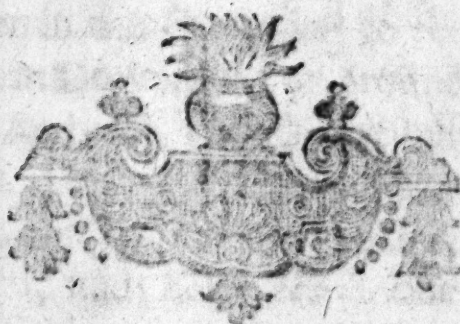
jections to the internal Use of *Crude Mercury*; having given some Light into the Manner of its Operation, and apply'd it to Practice, by shewing a Variety of Cases in which it was attended with remarkable Success; and pointed out others, where there is great Likelihood of its doing much Service.



POST.

GRADE MERCURY.

jections to the internal Use of Cerebrum
may, having given some Light into the
Manner of its Operation, and apply'd it to
Practice, by shewing a Variety of Cases
in which it was attended with remark-
able Success; and pointed out others where
there is great Likelihood of its doing much
between



POST



POSTSCRIPT.

THE following Cases being not completed before the Former were sent to the Press, we are obliged to add them by Way of *Postscript*.

The first relates to a Case inserted under the Head of the *Iliac Passion*, being a Relapse, occasion'd by bad Food; as that which follows will make appear.

The second refers to another Head of the Curative Part of our Discourse (*viz.*) *The Uses of Crude Mercury in Rheumaticks.*

We

Of the Force and Energy of

We chuse to insert the Letter, at full Length, that was sent me by him that attended them.

Dear Brother,

“**Y**OUR Acceptance of the late Cases,
“ has occasioned my sending you
“ these following, which may farther de-
“ monstrate the Usefulness of *Crude Mercury*.

Hist. IX. “ The first is the renewed Complaint of
“ our former Patient *Mrs. Moore*, who on
“ the twenty-sixth Day of *February* last,
“ by feeding plentifully of *Bullock’s Heart*;
“ relapsed into a violent *Cholick*, accom-
“ panied with continual Vomitings.

“ Our purging Tincture, and a stimulat-
“ ing Clyster were applied, which instead
“ of procuring Stools, were both thrown
“ up by the Mouth. Here was a true
“ *Iliac Passion* to deal with, attended with
“ strong Convulsions.

“ She

CRUDE MERCURY.

III

“ She was for some Time predispos’d for
“ this Fit, as not having been at Stool for
“ three Days before; the purging Medi-
“ cines and the Clyster effecting nothing,
“ as indeed they could not, the Stomach al-
“ ways rejecting them, rather aggravated
“ and increas’d the inverted Motion of the
“ Intestines.

“ We had therefore Recourse to her old
“ Friend *Crude Mercury*, and she swallowed
“ half an Ounce, upon which the Vomit-
“ ing immediately ceas’d, the Pains mode-
“ rated by Degrees, and the Convulsions
“ left her.

“ In three Hours a large Stool follow-
“ ed, and in a few Hours after taking an-
“ other Dose, which was about six Hours
“ Distance from the first, the Pains were
“ entirely remov’d; the next Morning we
“ repeated again the Mercury, more by Way
“ of Precaution, than for any real Ne-
“ cessity, and she remains well to this
“ Day.

“ Thus

“ Thus was she delivered from this dan-
 “ gerous Disease, and, in *Extremis*, by
 “ only one Ounce and an half of this no-
 “ ble Medicine.

March 15.

Hist. X. “ A young Gentlewoman at Mrs. Roberts’s
 “ in *Well-Close-Square*, of a Rheumatic Ha-
 “ bit for several Years, was seized with
 “ racking Pains in all her Limbs, with
 “ Stitches in her Side, an high Fever, and
 “ a sharp irregular Pulse.

“ We bled her to fourteen Ounces, the
 “ Blood *Pleuritical* and *Sixey*; she was
 “ treated with the usual *Anti-Rheumaticks*,
 “ and for the first two Days was much
 “ relieved; but on the fifth all the Symp-
 “ toms returned with much greater Vio-
 “ lence; and as she was averse to Bleed-
 “ ing again, and Blistering, I persuaded her
 “ to take the *Mercury*, which was com-
 “ plied with.

“ We

“ We accordingly administer’d half an
 “ Ounce Night and Morning, till she had
 “ taken four Ounces, by which she was
 “ wonderfully relieved, the Symptoms gra-
 “ dually abating: And by taking four Dozes
 “ more, by Way of Security, the Pains are
 “ removed, and the Use of her Limbs en-
 “ tirely recovered, and she has continued
 “ well ever since.

I am, &c.

SAMUEL HARRIS.

Goodmans-Fields,

March 30. 1734.

To these, I must subjoin, that *Crude Mercury* is an excellent *Anti-Emerick*; for all bilious Vomitings it turns downwards: And when the Salt of Wormwood and the finest prepared Bitters have no Effect, this alone, is sufficient to correct that acrid Humour, and to settle the *Ventricle*, as might be instanced in more Cases than one.

Under that Head of its *Uses in the Gravel and Stone*, I have since known it to settle the *Ventricle*, to put an End to the convulsive Vomiting, always a Symptom thereof, and to bring away large Quantities of the gravelly Sediment, residing in the Kidneys, thereby freeing the Patient from those grinding Pains, and at the same Time giving sufficient Relief, by Stools.

Hist. XL. I have since had a Patient labouring under a Rheumatism, complicated with the Gravel, to whom this excellent Medicine alone, without all other Assistance, has wonderfully relieved her.

There is yet to add, which refers to the Case mentioned under the Head of *the King's Evil*, at that Time left unfinished, (*viz*) that the *Strumæ*, or indurated *Parotidal Glands*, are quite dissolved by the internal Application of *Mercury*, the Ulcers are incarn'd and cicatrized, without any Assistance, except outward Applications.

Crude

Crude Mercury answers all the Intentions ^{Crude Mercury the best Anti-Emetick.} that the best and most certain *Anti-Emetick* can do, I am very well convinced; and being the greatest Destroyer of Acidity, or any acrimonious Matter, it acts therefore as ^{And Absorbent.} an Absorbent. Its specifick Weight, as has been more than once evinced in this Essay, is sufficient to settle the *Ventricle*, to keep down its *Fundus*, by which Nature alone is induced to corroborate the Muscular Fibres, till they thoroughly recover their Tone, Firmness, and Elasticity.

And hence is it so very efficacious in the ^{Its Efficacy in the Heart-Burn.} *Cardialgia*, or what is called the *Heart-Burn*; that by blunting and sheathing the Points of the Acids, it puts an end to that uneasy Sensation.

To evidence this, I shall recite one other Observation, related to me by the Author of the foregoing Letter, in his own Words.

March 7. 1733.

Hist. XII. " **WHAT** I am now about to relate,
 " is the Catastrophe of a Chronical
 " Complication.

" Both Fluids and Solids to the last De-
 " gree vitiated; I formerly hinted to you
 " something of this deplorable Case.

" This Lady had formerly, and of late,
 " entertain'd two very worthy Physicians,
 " who gave her palliating Relief beyond
 " Expectation; but at length one Master-
 " Symptom arose from an acid Humour in
 " the Stomach, which she call'd the Heart-
 " Burn, that gave infinitely more Pain and
 " Disturbance than all the other Symptoms
 " (tho' bad enough) put together.

" In about two Hours after taking the
 " lightest Sustainance, she was oppress'd
 " with such violent Sickneſs, Reachings,
 " and Pain ſucceeding almoſt to Death,
 " which ſeldom ended till the Stomach
 " was empty'd of its Contents, notwith-
 " ſtanding they conſiſted principally of
 " Spoon-

" Spoon-Meats, and of the easiest Di-
 " gestion.

" Thus she continued upon the Rack
 " from about two Hours after Dinner-
 " time till Five o' Clock the next Morn-
 " ing; from which Time to One o' Clock in
 " the Afternoon was all the Respite she had.

" This terrible Symptom was endeavour'd
 " to be obviated with *Absorbents*, *Stoma-*
 " *ticks* of all Kinds, the *Sal. Absynth.* and
 " *Bitters*, in such Forms and Quantities
 " as her Stomach would best admit, gentle
 " *Emeticks* and *Catharticks*, being first pre-
 " mis'd.

" But at length being tired, she disconti-
 " nued all Physical Measures, (I cannot call
 " them Remedies,) and of her own Accord
 " drank large Quantities of fair Water, with
 " which however her Stomach was some-
 " thing relieved; yet undoubtedly an *Ana-*
 " *sarca*, that had made long Strides to-
 " ward her, was thereby considerably af-
 " flicted and increased.

" Her

“ Her swell’d Legs, &c. were drain’d
“ by Blisters on both Legs for about a
“ Month.

“ The Disorders of the Stomach again
“ returned with the same Violence, no Di-
“ gestion to be perform’d, so that it was
“ impossible she could hold out longer
“ without some Relief.

“ To this End, I prevail’d with her to
“ take the Mercury.

“ You may observe, that I could not
“ propose, in so diseas’d a Subject, that it
“ would effect a Cure, when the Sentence
“ of Death had long been pass’d upon her ;
“ but only by palliating the *Heart-Burn*,
“ and *Indigestion* thence proceeding, to
“ make the unhappy and short Remainder
“ of Life as easy as possible.

“ With this only View, she took the
“ *Quick-Silver*, for about six Days, which
“ effectually carried off her *Vomiting*, and
“ render’d the *Heart-Burn* tolerable ; which
“ was

“ was as much as could be expected from
“ it. All that from hence I infer, is, that
“ *Crude Mercury* is the best *Anti-Emetick*,
“ and Corrector of *Acidity*; for when the
“ whole Tribe of Stomaticks, assisted by
“ Emeticks, fail’d, the *Mercury* alone has pre-
“ served this Lady’s Life about three Weeks:
“ And what I further observe, is, that *Crude*
“ *Mercury*, in Half-Ounce Doses, is suffici-
“ ent in most Cases, and so safe, as may be
“ taken by the weakest Person. Be pleased
“ to entertain this in Favour of

Your Affectionate Brother,

SAMUEL HARRIS.

F I N I S.



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